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THE ADDRESS ON MEDICINE.*

BY JOHN L. BRAY, M.D., CHATHAM, ONT.

Mr. President and Gentlemen,—I stand before you to-day to deliver the address on medicine, and the only thing I regret is that some one more worthy and competent to perform the task assigned me had not been selected. However, I take it as one of the highest honors that could be conferred on any member of the Association to be asked to deliver this address before the profession of the Dominion in this its chief city, and can only attribute my being thus honored to the great kindness of your president, and to his limited knowledge of my capabilities, and must crave your indulgence for any shortcomings on my part in the performance of this duty. I will endeavor in a very plain manner to give you my views and experience on malaria, instead of going over the whole domain of medicine, which, if I were equal to the task, would only worry and bore you; and further, I feel that it will better serve the object and interests of this Association to give a few practical points for discussion in order to bring out the opinions of the members present to-day, as I consider we have too many papers and too little discussion in this and every other medical society. Most medical journals are full of papers which only represent the author's ideas, while a short practical paper, which I trust you will find this to be, elicits criticism and the flaws are pointed out and condemned, while the good things (if any there be) are approved and endorsed by men of experience and ability.

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* Read before the Canadian Medical Association, at Montreal, September, 1891.

Perhaps on no subject connected with medicine have more theories been advanced or divergence of opinion expressed than that of malaria, and I must confess that I know very little of its etiology after reading most of these theories, aided by an experience of nearly thirty years practice in a malarious district; but scientists and investigators of the present day are approaching more nearly the solution of this knotty question.

It is a generally recognised and acknowledged fact that three things are necessary for the production of malaria, viz.: heat, moisture and vegetable decomposition, and unless these three causes combine we can have no malaria.

Modern research has shown that vegetable decomposition of organic matter in the soil is due to the vital activity of living organisms, and we are indebted to such men as Laveran, Carter, Councilman, Sternberg, Osler and others for their original investigations and untiring efforts to solve this problem, and it is owing to them, particularly the former, that something like a conclusion has been arrived at, that micro-organisms in the blood, if not the cause of malaria, have an etiological relation to it, and are beyond doubt a diagnostic mark of its presence in the system.

Laveran's theory has come to be the one generally accepted by the profession, as communicated to the Paris Academy of Medicine in 1881 and 1882 and afterwards published in 1884. He found, as characteristic elements of the blood of persons attacked with malaria, first, crescentic pigmented bodies; second, pigmented bodies in the interior of the red corpuscles which underwent changes in form described as amœboid; third, a pigmented flagellate organism.

The following brief summary of the important facts relating to these organisms I take from a monograph by Osler:—First, in acute forms of malaria there exists within certain of the red corpuscles amœboid bodies, usually pigmented, which undergo a definite evolution, increasing in size, gradually filling the entire corpuscle, and which, prior to and during the chill, undergo a remarkable segmentation. To this form the term "plasmodium malariæ" has been given. There are also in some cases free pigmented bodies. Occasionally in acute forms flagellate bodies are seen free in the blood presenting from three to eight long actively moving cilia; according to Councilman, these are much more common in blood withdrawn from the spleen. Second, in more chronic cases, particularly in the forms of remittent fever which are so apt to be taken for typhoid, the corpuscles do not often present the intercellular forms, but these are remarkably ovoid rounded and crescentic bodies deeply pigmented. These are in all probability related to and developed from intercellular forms. From certain of these, particularly the ovoid and rounded forms, the flagellate bodies may be seen to develop.

We know these organisms are in the blood, but how they get there and from whence come they, is a question that to my mind is difficult of solution. Do they exist as an element of the blood and are only developed when persons are exposed to certain influences supposed to be of a malarial character? or are they, on the other hand, given off from the soil, the result of the decomposition of organic matter, and taken into the blood directly through the lungs? or are they taken into the stomach through the saliva or otherwise and thence to the intestines, where they undergo changes and enter the circulation through the lymphatics, there to develop as has been demonstrated in the red corpuscles?

I cannot but think that these malarial germs or organisms or whatever they are enter the system both by the lungs and stomach, or why do they produce as they often do diarrhœa and dysentery in place of the typical intermittent or remittent fevers. My idea is that when this occurs, the germs are carried directly into the stomach through the water we drink, or the saliva we swallow, and thus reach the intestines. In proof of which I quote Sternberg who says: "The human intestine has a microscopic fauna and flora almost equal to a city gutter, the mouth with its uniform temperature, free access of oxygen and constant supply of pabulum (the salivary secretion) is an admirable culture apparatus, hence therefore there is constantly going on a struggle for existence among a number of minute parasites, most if not all of which are harmless, and the same may be said of the bacteria which habitually infest the human intestines." Then why should not other species whose normal habitat is external to the body in swamps or elsewhere, when introduced into the intestines as they often must be in large numbers, give rise to special kinds of fermentation, and to the production of special products which are not harmless.

Now, I am of the opinion that the malarial germ often takes this route, and this is why we have diarrhœa and dysentery that can only be cured by clearing out the intestines and giving quinine. Other remedies such as ipecac, opium, etc., have had no curative action in my hands in the endemics of dysentery, undoubtedly malarial, that we sometimes have in the western district late in the season after a hot and dry summer and the well water very low.

This is one very strong proof that these germs or organisms are carried to the intestines and there undergo changes which make them dangerous.

Again, on the other hand I think it clearly demonstrated that the germ which produces this plasmodium as found in the red corpuscles of the blood is taken directly into the lungs through the air we breathe, and enters the circulation, causing those typical cases of intermittent pneumonia, and aggravating and often producing periodical attacks of asthma.

Now, I am not going further into the consideration of the origin and development of these organisms, as if I did I would only be giving you the opinion of others, as I have not investigated this part of my subject to such an extent as would warrant me in inflicting my views on you, and your time can be much better employed by looking into the works of Laveran, Councilman and Osler, which are well worthy of perusal.

Before considering the different types of malaria I would ask, why do we have malaria in winter when the temperature is very low, if it depends on vegetable decomposition due to heat and moisture as no doubt it does. I have seen no theory advanced to account for this, and shall give you my own as expressed in a short paper read before the Sanitary Convention in London in November, 1883. It is this, there are three great receptacles for the malarial poison, viz.: the earth, water and the human body that have a supply in store as it were laid up for the winter, which under favorable circumstances manifests itself in the shape of intermittent or other forms of malaria. The water in the wells is perhaps the greatest source of supply, particularly when the ground is frozen hard for a long time and the water gets low. The second reason is, the poison escapes from under houses and spots of ground protected from the frost, and the third source is that some persons living in a malarious district have a continual supply in the system, only waiting to be developed when it finds a good opportunity, such as exposure, sudden changes of temperature, over fatigue, loss of rest, mental strain or any thing else that will cause the system to run down, thus reducing and impairing the vital resistance of the nervous system; one very strong proof that these organisms are latent is that a man may have lived for fifteen or twenty years in a malarious section without ever having had ague or any other form of malaria, but let that man cross the Atlantic or go where malaria is unknown and he is liable to an attack of it. I have known many such instances, which to me is a very strong proof of the latency of this germ in the blood or some of the organs of the human body.

'Tis true the type of malaria is milder in winter, and for the reason that the sources of supply are limited in comparison to summer, and is principally confined to localities where it is endemic; in other words, there are not enough escapes for the winds to carry it to any distance in sufficient quantities to produce its pathological effects, if indeed it could survive the frosts it would have to encounter on its journey. This, then, is my theory as to why we have malaria in winter. It may be erroneous, but I think the investigations of Laveran and others as to the organisms found in the blood corpuscles give strength to this view, and, if this is correct, go to show that these organisms are not only a diagnostic mark but also a factor in the production of malaria. Another reason that convinces me that these are stored up in the blood or organs is this: speaking from personal experience a sudden fall of temperature in hot weather invariably brings on in me symptoms of malaria, such as lassitude, stretching, yawning, aching of the muscles, particularly of the back, and neuralgia, which a few doses of quinine will relieve in a short time; the same thing occurs in cold weather on a sudden rise of temperature, and I can only account for this by having stored up somewhere in my system a supply of these, I was going to say, infernal germs or organisms. I speak feelingly, and I think with some weight, as I have been a sufferer in this way for over a quarter of a century.

Now, as to types of malaria, we have the quotidian, tertian, quartan and intermittent forms. Why these different types should occur is hard to explain, nor has it hitherto been satisfactorily accounted for, and is a field well worthy for further study by our pathologists.

By some it is claimed to be due to individual idiosyncracies, and they offer as proof of this that, a number of people exposed to the same malarial influences, we find one having quotidian, another tertian, and a third quartan ague, as is exemplified in individuals exposed to cold under identical circumstances, one will have pneumonia, another rheumatism and a third diarrhœa. There may be some truth in this theory, but I think that temperature as well as the intensity of the infection has more to do with the different types than has individual peculiarities.

My experience and investigations have led me to believe that early in the summer we have the tertian and quartan forms; when the heat is great and the emanations from the soil reach their maximum intensity we have quotidian, double quotidian and remittent; later, when the temperature is lower and decomposition has almost ceased, we go back to the quartan and tertian varieties, and still later, when the temperature gets much lower, we have dysentery, the reason for which I will presently endeavor to explain.

My conclusions are then that it is more to the temperature and date of intoxication that these different types are due than to individual idiosyncracies, in proof of which it is well known and shown by statistics that in India and other tropical countries, persons that go there who have hitherto been free from malaria will have the quotidian or remittent type, while those who have lived there for years and have been exposed to and poisoned by malaria, will have relapses at longer intervals, and then only when subject to exposure or sudden change of temperature. This is, I think, important, and goes to prove that date of infection and temperature have much to do with the character and type of malarial attacks, and my own observations bear out this view. Thirty years ago almost the only form of malaria prevalent in the western district was of the quotidian and remittent variety, the latter being called bilious or bilious remittent fever, and the reason I assign for this is that the low country was almost constantly covered by water, undrained, and was being settled by emigrants who hitherto knew nothing of malaria, the land was being cleared and tilled, allowing the germs to escape for the first time, so that those people got the full effect of the poison liberated from the virgin soil, which had accumulated from the decayed and decaying organic matter, and as a consequence were attacked with regular old-fashioned shaking ague that made the dishes on the table and the tins on the walls clatter. So much was this the case that it was no uncommon occurrence to find whole families laid up at once, and at the same hours, leaving no one to give another a drink of water. All this is now changed, and we rarely if ever see a case of shaking ague, but have instead chill fever or dumb ague, intermittent neuralgia, diarrhœa, dysentery, malarial cough, lassitude, anæmia, heart murmurs, albumen and œdema simulating Bright's disease, hæmaturia, enlarged spleen, rheumatic pains and congestions of nearly all the organs, besides many other affections, obscure in their nature, but undoubtedly due to malarial organisms. Now, how is this change in the type of malaria to be accounted for? For nearly thirty years I have been a close observer of the changes that have taken place in the forms of malarial diseases that are endemic to this section, as well as of the climatic influences which affect the character of the poison, and to my mind there are three reasons for the change. The first and chief one is better drainage. The second is that the forests have been cut down and the country cleared up, lessening the amount of organic decomposition, and the third one is that nearly all the virgin soil has been cultivated over and over again, thus liberating and getting rid of nearly all the organic matter that had been accumulating and stored up under the sod.

I said I would try and explain why dysentery should be produced by malaria after vegetable decomposition had ceased, and will now endeavor to do so. My explanation is this: continued exposure to malaria engenders a cachetic state of the system by reducing the globular richness of the blood, perverting the nutritive processes of the tissues, and impairing the vital resistance of the nervous system, thus rendering its victims especially liable to attacks of specific febrile diseases, and to splenic, hepatic, intestinal and other local congestions. One of the structures most liable to be affected is the mucous lining of the intestinal canal. Taking, then, the perverted state of the blood and tissues, the congested condition of the intestines, together with the malarial germs infesting the canal, undergoing changes by fermentation and acting locally on the mucous lining as well as constitutionally through the blood, and we have made plain the reason why dysentery follows continued exposure to malarial influences, and why the mortality from this disease at such a time is far above what it would be if the malarial element had not existed. We hear and read of typho-malarial fever. Now I do not believe there is such a disease, and the name is a misnomer.

A person may have malarial organisms in the system and at the same time be attacked with enteric fever; as a consequence there may be and often is a chill followed by a greater rise in temperature and then a remission, but never an intermission; on examining the blood of such a patient the plasmodium will be found; by giving a few good doses of quinine the chill is arrested but the fever goes on and runs its regular course. Again, a person living in a malarious district having typhoid, when convalescing may be attacked with malaria owing to the per-

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Dose.—A heaping teaspoonful of the salt, containing 1 grain Citro-tartrate of Iron and 2 rains of Soda, to be taken in a glass two-thirds full of water and drank while effervescing. If a more decided effect is desire, warm instead of cold water should be used. In all cases this draught should be taken but once or twice a day, and then on an empty stomach, preferably before breakfast. No restriction as to diet. One or two Pil. Digestiva (W. & Co. may be taken at noon, before eating, as a dinner pill.

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Marasmus, Cholera Infantum

INDIGESTION, DYSPEPSIA AND SICK STOMACH,

sed from debility of that organ. It is superior to the Pepsin preparations, since it ac *with more certainty*, and effects cures where they fail.

verted condition of the blood and impaired state of the nervous system due to the long illness, and after the enteric fever proper has run its course, but in neither of these cases can this be properly called typho-malarial fever. The bacillus of typhoid and the organisms of malaria are separate and distinct poisons and are not produced from the same causes, although they enter the body by the same channels, but it has yet to be proved that the germ that produces malaria will cause typhoid, or that the bacillus that attacks the mesenteric glands and Peyer's patches will induce malaria in any form, and I think the sooner we recognize this fact the better.

My observations have taught me that if we have a continued form of fever, withstanding quinine and mild laxatives, lasting over seven or ten days, we are safe in pronouncing it typhoid, and just here let me say that the examination of the blood corpuscles in this class of cases is one of the most valuable diagnostic marks we possess. At the same time this alone cannot be relied on, particularly where malaria is endemic, for I have seen numbers of cases undoubtedly typhoid where in the early stage the characteristic plasmodium was found in the blood, but after giving quinine for a few days they disappeared, but the fever continued and proved to be enteric, and I would impress strongly on the profession the necessity of caution in giving a diagnosis in these cases. It is much better for the physician to say I cannot tell for a few days what course this fever will take, than to give a snap diagnosis and say that this is typhoid, when in the course of a week the patient will be well and at work, or on the other hand say, Oh! this is only a case of malaria when it turns out to be typhoid. In this case he will try to square himself with the friends by saying it was malaria but has run into typhoid, or in the former instance take to himself great credit for cutting short and curing a case of typhoid in a week. I have met with examples of both cases more than once.

One more point and I have done; it is this, malaria I am convinced is not confined to certain localities as it was twenty or thirty years ago, but it is spread over nearly all parts of the Dominion and is much more general than is usually supposed, and this is a very important point that must not be overlooked. Why, you may ask, is this the case when you have already proved or tried to prove that in the home of malaria, by drainage and other means before mentioned, malarial diseases have greatly decreased. My answer is this, the very means (or some of them) taken for lessening the supply at the fountain-head has, while accomplishing this object to a certain extent, caused it to be carried by wind, water and rail to the homes of thousands who before were strangers to this disease.

The country having been cleared of its forests (themselves great consumers of these emanations), allows the winds to have free sweep, wafting the germs miles and miles from their original lair. The water in the new made drains carries the poison to streams and rivers to be used in many a household. The railways, conveying as they do thousands of passengers long distances from the source of malaria, many of whom have these organisms latent in the body, which are only developed on reaching their destination owing to climatic changes or other causes, are great distributors of this disease, introducing it in this way to localities where perhaps hitherto it had been entirely unknown ; and while the types of malaria are not so well marked as was the case when confined to certain districts, (the poison being less concentrated), it only makes its diagnosis more difficult and often accounts for the seeming obscurity of many affections that puzzle and perplex the busy practitioner.

POINTS OF CLINICAL INTEREST IN PULMONARY TUBERCULOSIS.

By J. D. Thorburn, M.B., L.R.C.P., L.R.C.S., Edin.
Late Medical Superintendent of Manchester Hospital for Consumption and Diseases of the Throat, etc.

Mr. Chairman and Gentlemen,—My recent connection with the Manchester Chest Hospital has afforded me ample opportunities of making observations on cases of chest disease, and I trust this may be sufficient excuse for venturing to bring before your consideration the following clinical notes:—

In his work on the causes and prevention of phthisis ("The Milroy Lectures," page 3), Dr. A. Ransome writes as follows: "Dr. C. T. Williams gives as the result observed in private practice that a cure was effected in 4.6 per cent. of the cases; great improvement in 38 per cent.; the disease was stationary in 13.4 per cent., but in 43.5 per cent. there was more or less increase."

Dr. T. Harris, of Manchester, has found that at least in 39 per cent. of the autopsies at the Manchester Royal Infirmary there was evidence of cured phthisis. Consumption is curable, and that it is to a great extent preventable, is clearly shown by the mortuary statistics of the various armies and navies, as well as those derived from other sources.

In making a physical examination of a diseased chest we must not be surprised at the vagaries indulged in by the adventitious sounds, such as being one time present, and then absent. Inasmuch as the majority of these sounds are of bronchitic origin, the explanation is easy why crepitations over one or both of the apicies heard at the beginning of the examination disappear after a few deep inspirations; or in other cases are only audible upon coughing or deep inspiration. Then again, the comparatively frequent absence of all abnormal physical sounds in a lung which was, or is, at the time of examination the seat of a hæmorrhage. A well developed patient of ruddy countenance is apt to be doubted if he informs you he has had hæmoptysis a few days previous, when upon examining the patient's chest no abnormal physical signs are discovered. In referring to hæmoptysis I wish to draw your attention to a hitherto, so far as I am aware, undescribed sound, which is frequently present within a few minutes after cessation of bleeding. Placing the ear near the apex beat of the heart, within an inch or so of the chest wall, a sound is distinctly audible, not sharp, but dull and booming in character, a sound very similar to that heard when a submerged bottle is filling. This sound is not synchronous with either the heart's beat or with that of the respiratory murmur. It begins about five minutes after the hæmorrhage, disappearing again after a short time; occurring from ten to fifty times within the minute, and is limited to the præcordial space. Probably the reason of this sign having been heretofore overlooked is, no doubt, owing to the reluctance with which a physician makes an examination of a patient's chest during a hæmorrhagic attack.

Among other anomalies of abnormal physical signs may be mentioned the change in locality and intensity of sounds, influenced by various causes, such as change of bodily posture, etc., and again the ease with which an impaired resonance can be detected when the patient is lying down, whereas, while standing, no difference of sound is apparent, both apicies seemingly giving the same note. At rare intervals is found a tympanitic note over an area of consolidation. The right explanation of this is that there is an island of healthy lung tissue embedded in a zone of consolidation.

Cavities must of necessity precede their physical signs. No more valuable assistance is afforded in clearing up a difficult diagnosis in a case of suspected phthisis than the height of the suspected lung. Given an instance, a pale, anæmic, poorly nourished girl presents herself with a history for some time past of having had a slight cough, anæmia and a feeling of general weakness. Upon examination, exaggerated breathing is heard, in right handed people, over the right apex, and in left handed people over the left apex. The breathing is jerky in both, and the absence of sputum removes another factor in the diagnosis. Now, are these conditions owing to organic changes in the lung, or merely manifestations of general debility? If the apicies are carefully marked out (the lightest percussion being used) and indicated on the chest wall by some coloring fluid, if the levels are equal, then it is strong presumptive evidence that we are dealing with a functional condition rather than an organic change. It is also of great value in assisting our diagnosis in those obscure laryngeal cases in which there is a well marked stenosis or ulceration either of tubercular or syphilitic origin. Auscultation of the chest is always very unsatisfactory in these patients since the laryngeal stenosis so modifies the pulmonary breathing that we are at times unable to detect any breath sounds at all. Here, again, the position of the suspected apex is our sheet anchor. Sometimes, however, this physical sign is of uncertain value; for instance, where there is an emphysematous condition around a solid apex. Secondly, where a diseased condition exists in both lungs; and, thirdly, in those cases where the disease begins in the base of the lung.

BODILY WEIGHT.

There are several points of interest to be noticed in connection with the bodily weight of phthisical patients. So far as possible, every patient under treatment should be weighed once a week, but special care must be exercised in selecting the same hour of the day. The reason for doing so is that I have noticed in a large number of hospital patients, and in a few private ones, that almost invariably the evening body weight of a patient exceeded that of the morning from one-half to three, and in one case as much as three and one half pounds. This cannot be explained by the quantity of food consumed, for the hospital patients partook of as much during the night as the day, and the quantity of waste material gotten rid of, practically speaking, was the same during the night and day. Since the temperature usually begins to rise about noon, and continues doing so until late in the evening, the above statements are in direct contradiction to the time-honored theory, "The bodily weight, all things being equal, is in direct ratio with the height of the bodily temperature." But, clinically. it is a fact that in many instances patients take on weight at the time of highest temperature, but early in the morning begin to lose it, and by 10 a.m. have come back to their weight of the previous morning. The body weight is not always a true indication of what changes the lungs are undergoing; there may be an increase of tubercular process, and at the same time an increase in weight; again, the contrary holds good. An improvement in the condition of the diseased lung and a decrease of body weight.

A rapid increase in weight warns us of a liability of returning hæmorrhage in those subject to hæmorrhagic form of the disease, and calls for a depleting rather than a stimulating plan of treatment. A gradual increase in weight justifies a favorable prognosis being given; whereas if there be a gradual decrease in weight the prognosis is grave.

THREE ATYPICAL TYPES.

I.—*Asthmatic.*

This is the name selected for a certain percentage of cases characterized by the following clinical features, in addition to the ordinary ones found in a patient suffering from an ordinary peri-bronchitic consumption. Without warning and not influenced by pre-exertion the sufferer is suddenly seized with a severe attack of asthma of prolonged duration and alarming severity, the temperature being either febrile or subnormal in character. These attacks present a few almost pathognomonic peculiarities. The patient during the attack does not seek the bent forward or semi-erect posture, but rather the prone position, which seems to favor the embarrassed breathing. The face, although drawn, does not bear an anxious expression; the alæ of the nostrils remain passive, and there is to a great extent an absence of facial congestion. The patient generally has a good family history as regards pulmonary disease, but there is, as a rule, an hereditary neurosis, which demonstrates its presence in repeated neuralgic attacks, both facial and abdominal, accompanied in females by phantom tumors. There is always a neurotic temperament, and night sweats are not marked, although day ones are. The tissues over the turbinated bones are usually engorged and swollen during the attack, and although the local application of cocaine at times modifies the severity, still it must be administered with great care, as these cases do not bear the drug well. Antipyrine acts much better, and there is not the same danger in its use. The drug giving the best result in the general treatment of this type is undoubtedly potassium iodide.

II.—*Melancholic.*

Jules Mickle, in one of his most interesting and able papers, "The Relationship of Insanity to Phthisis," speaks of six classes, but does not mention the clinical type now under our consideration.

These patients are middle-aged, usually of a dark complexion, greasy skin, hair straight and coarse, and are by no means insane, but are those tuberculous victims who from the very onset of the bacillary disease lapse into a state of marked melancholia, the mental condition being increased by, and in turn influencing unfavorably, the ravages of the bacilli. In contradiction to "Neuralgics," the "Melancholics" are free from neuralgic and other pains, but if subject to them, bear them manfully and without complaint, preferring to be alone, and when spoken to about their health give an abrupt, if not a rude, reply. Their one topic of conversation seems to be the welfare of their families, if any, after the speaker's death. Medicine is looked upon with suspicion and is only taken under protest; usually atonic dyspepsia, complicated with vomiting of food, within a short time of swallowing, is present. Next in importance to the melancholia is the marked insomnia. Natural sleep obtained at rare intervals is broken into by hideous dreams The patient knowing this strives to keep awake.

When induced sleep is secured by administering paraldehyde or some other drug, an undisturbed refreshing rest is secured, and if this be repeated for a few nights the clinical history of the case is changed for the better, and this favorable change lasts for a considerable time.

A tuberculosis of the kidneys complicates the majority of the melancholic type. The prognosis in these cases is bad. Not only for the patient himself, but their offspring are very liable to take on a rapid tuberculosis.

III.—*Basic Tuberculosis in Children.*

The little patients coming under this head are generally between the ages of seven and fourteen, living in filthy houses, mostly in overcrowded cities and frequently in want of food. They are brought to the doctor by their mothers, because " she won't work or even play like others of her own age. She is very short of breath, refuses solid food, but partakes of liquids in large quantities. The child is peevish, has a slight cough, and at times diarrhœa, and is losing weight." When combined with the above history we find a peculiar dry harshness of the skin, thin, pinched, old features, our attention should be attracted to the bases of the lungs, even although the examination of the apices fail to discover disease. Upon examination, we frequently find a large secreting basic cavity of tubercular origin, and owing to the cavity being in the dependent portion of the lung there is no chance of natural drainage, hence the importance of surgical interference.

Upon comparing the prognosis of this " Basic type " with that of an " Apical variety," it is found that although the disease is of longer duration the patient's general condition is much worse.

Laryngeal tuberculosis is seldom present, probably owing to the inability of the patient to cough up infective masses into the laryngeal box. Then, again, children are not as a rule subject to laryngeal tuberculosis.

MODE OF TRANSMISSION.

The atmosphere conveys the bacilli to the air passages. The chief source of the bacilli is from the dried sputum of phthisical patients. Then, again, bacilli are to be found in the expired air of those suffering from consumption. This latter source is denied by some few authors, the most noted being Cordet. But that they are present has been proven by Dr. C. T. Williams, of Brompton Hospital, London, and by Dr. Arthur Ransome, who carried out a series of experiments in the wards of the Manchester Hospital for consumption and diseases of the throat at Bowden, England.

I cannot do better than give you his own words, which are as follows: "Some doubt has been cast upon the possibility of bacilli being found in the breath, especially by Dr. Cornet, of Paris. He adduces as grounds for this belief that nonvolatile substances could not be exhaled, that many competent observers have failed to find them, and that errors have crept into the observations. To these objections I would reply that any one who will examine microscopically the condensed aquæous vapor of the breath may soon convince himself that it contains much nondiffusible organic matter, such as epithelial scales. But there is nothing surprising in the fact that such negative results have been obtained. I found no bacilli in some cases in the deposit of several drachms of condensed aquæous vapor, and very few in any case. The fact that the bacilli were so few in number is of itself a tolerably sure proof that no contamination by sputum had taken place, owing to the precautions taken to prevent this accident."

These remarks of Dr. Ransome will emphasize what I am now about to bring forward.

Great care is often exhibited in washing and even disinfecting the pillow cases of phthisical patients' beds, but the pillows themselves are left severely alone. Now, the aquæous vapor contained in the expired air does contain bacilli; therefore, some of the bacilli must of necessity be conveyed through the covering into the pillow. Clean slips are put upon the infected cases, and there is a condition analagous to an infected floor covered only by a porous carpet. A healthy person using these pillows is very liable to contract the disease, as shown by the frequency with which the wife contracts the disease from the husband and the husband from the wife, and children from their parents. It is, therefore, the physician's duty to see that the pillows are disinfected as well as the slips.

Knowing how hydrophobia has been practically stamped out by muzzling dogs, why cannot a similar precaution be taken with men, using instead of a muzzle a handy portable spit cup? If this were done and more care exhibited in the selection of food, all suspected cattle destroyed, and mixed-milk rather than that given by one cow used; combining this with better sanitary arrangements would have the effect of saving thousands of useful lives yearly.

A COMPOUND COMMINUTED FRACTURE OF THE SKULL FOLLOWED BY ABSCESS OF BRAIN.*

By J. A. Hutchison, M.D.,
Assistant Surgeon, Montreal General Hospital.

On Sept. 21st, 1891, I went out on a wrecking train to St. Madeleine to a railway accident, and found a man unconscious, having fallen on his head in jumping from the moving train. The accident occurred at about 3 o'clock A.M. On examination, a large depressed fracture, with protrusion of the brain substance, was found. The whole wound was filled with mud and gravel. He was completely unconscious; pulse weak, rapid, but regular; respiration slow and regular; pupils moderately contracted, no reaction to light. The right foot was badly crushed. No other injuries.

I removed as much of the dirt as possible from the wounds, covered them with gauze, and administered some stimulants. During the return to the city, after some vomiting, the patient suddenly collapsed, both pupils becoming dilated, the right more markedly. At about 11 o'clock he was taken to the General Hospital, under Dr. Armstrong. The following is a sketch of the hospital report:

Patient taken to operating-room and examined under ether by Dr. Armstrong. A compound comminuted, depressed fracture of skull was found at the junction of the frontal and parietal bones and a portion of the brain protruding, supposed to be the ascending frontal convolution, which was loose and easily removed by the fingers. A number of small pieces of loose bone resting on the brain were removed, and one circular piece half an inch in diameter, which was buried deeply in the brain tissue, was also removed. The shape of the fracture was circular, about the size of a fifty-cent piece. The pieces of bone were entirely separated from the table of the skull, the wound carefully cleansed and packed with iodoform gauze, and a small incised wound at the back of the head was stitched and dressed. The patient's condition not permitting of an immediate amputation of the foot, it was dressed and he was put to bed.

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* Read before the Medico-Chirurgical Society of Montreal.

The same night he showed some signs of consciousness, but was unable to speak or swallow. Temperature 99.5°; pulse 120. On the second day he was able to take nourishment, and answered "yes" to all questions, but he could understand what was said to him.

3rd day—Improvement marked. Temperature 98°; pulse 86; respirations 20.

6th day—His condition permitted operation on the foot, and it was removed after Pirigoff's method.

7th day—Very restless and sleepless, but says he has no pain. This passed off the following day, and improvement continued until Oct. 5th, the

15th day—Signs of delirium developed; wound was washed out and dressed again, and delirium passed off.

20th day—Up till which time improvement has been marked and temperature always about normal. At 2 P.M. he suddenly complained of a general headache and became delirious; in about ten minutes a severe chill came on, and temperature ran up. At 4 P.M. the temperature was 104.5°; an ice-bag was applied and opium given hypodermically. Later, wound was carefully irrigated and packed with iodoform gauze.

The following day, temperature remaining high and no general improvement having taken place, also a marked flushing of the face and neck being observed and distinct aphasia, Dr. Bell, in the absence of Dr. Armstrong, carefully probed the brain in the neighbourhood of the wound; some sloughy-looking material was found, a drainage-tube was introduced, and parts dusted with iodol.

22nd day—Temperature in morning normal, in the afternoon 101⅗°. Patient feels no discomfort.

23rd day—Temperature in morning normal, at 4 P.M. 104°, and at 5 P.M. patient became excited and restless; at 8 o'clock temperature 105¾°, and he became wildly delirious.

25th day—Temperature normal; patient quiet; Leiter's cap applied to head, and wounds dressed daily. From this day patient steadily improved until he was discharged, Nov. 21st, being just two months in hospital. Drainage still in wound, but greatly shortened.

He again came under my care and had wounds dressed from time to time until healed.

About the middle of March, 1892, patient asked to be allowed to return to his engine as a fireman, and was allowed to go. About the middle of April he complained to me of a pain in the right side of the head, which passed off in a day or two. Again, on April 23rd it returned, and I saw him in the morning; temperature normal, general condition good, but severe pain continued and was only controlled by morphia.

The following day he appeared well, but during the night the pain returned, and on the 25th, at my visit, temperature was normal, but pulse 48, and a slight twitching was noticed in the right arm and hand. In the afternoon Dr. Armstrong saw him with me; pulse was then about 70, and it was decided to remove him to hospital for careful observation, but while preparing to go he was taken with a severe convulsion, followed by loss of consciousness and death a few hours after, at midnight, on April 25th, about seven months after receipt of injury.

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

By Francis J. Shepherd, M.D., C.M., M.R.C.S., Eng.
Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Appendicitis.—In a paper read before the New York Academy of Medicine (*N.Y. Medical Record*, April 16, 1892) on "Appendicitis," Dr. C. McBurney reported six cases operated on within the short space of fifteen days, all of which recovered. In the course of his remarks on these cases Dr. McBurney emphasizes the fact that the honour of first developing the operative treatment of appendicitis must be awarded to American surgeons. They fearlessly and successfully opened the peritoneal cavity to reach deep-seated abscesses connected with the appendix. He recommends, before such a deep-seated abscess is opened, the road to it should be lined with sponges; and if a small opening be made, the pus may be caught in the abscess almost *guttatim* and harmlessly removed. In difficult cases the discovery of the appendix may baffle the most careful search, and he thinks it best first to introduce the finger and the appendix may be immediately found; if not, the caput coli should be exposed and the appendix carefully searched for. As regards time for operation, he begs to differ from Mr. Treves, who says that "surgical interference should not be undertaken before the fifth day except in the presence of very emphatic symptoms." It is no comfort to be assured that few cases die before the fifth day, for those who die on the fifth day have begun to die on the second or third. Dr. McBurney has noticed that cases operated on after long delay and numerous consultations are frequently fatal or extremely hazardous. Cases of acute appendicitis operated on at the right time, before the disease has progressed too far, are nearly invariably successful; out of some fifty such cases Dr. McBurney has seen only *one* die. He considers examination through the rectum of no value whatever in the early stages of appendicitis, and thinks that our attention had better be devoted to learning the signs of suppurative appendicitis before the abscess has threatened the rectum. In conclusion, he stated that in these cases the surgeon and physician should work together. Dr. McBurney's cases are very instructive and well worth perusal. The fortunate ending of all the operations was due, no doubt, to his careful surgery, but still I am of opinion that there are certain cases septic from the first, and which no operation will relieve. Such a case I had last winter, where operation was performed within forty-eight hours. The patient was already profoundly septic, as evidenced by his black vomit. The appendix was found gangrenous, as was also the cæcum, but not a drop of pus was found; the operation did not relieve in the least, and the patient, a boy of 18, died twenty-four hours later. In this case the appendix was seven inches long and bound down by strong adhesions, the result of previous attacks. In some cases the virulence of the infective pus is much greater than others, for it is well known that some bacilli are much less dangerous than others. I am surprised that Dr. McBurney did not mention the method of finding the appendix, which is so well known to anatomists—viz, by tracing down the anterior longitudinal band on the cæcum, it leads directly to the appendix.

Partial Resection of Cæcum for Gangrenous Typhlitis; death years after from angulation intestine.—Tillman of Sweden reports the case of a patient, aged 30, operated on on Aug. 2nd, 1885, for violent symptoms of intestinal obstruction. Operation revealed gangrene of anterior portion of cæcum and ascending colon. Resection was performed with difficulty, the operation taking 4½ hours. Patient recovered and remained well for five years. On Oct. 10, 1890, symptoms of obstruction again appeared, and operation was performed. No resection was made, but an intestinal fistula was established in the right iliac region. Patient died on the third day. Autopsy revealed general peritonitis, and the occlusion was found to be due to kinking of the bowel at the splenic flexure of the colon.—(*Nordiskt. Med. Arkws.*, Bd. ii, Aft 1; quoted in *Annals of Surgery*, June, '92.)

Acute Intestinal Obstruction; Operation by Short Circuit.—Mr. E. Atkinson of Leeds reports a case of obstruction (*Lancet*, May 7, 1892) in a man, aged 22, for which he operated. On opening the peritoneal cavity a quantity of clear fluid escaped, and distended coils of small intestines appeared at the wound joined together by broad bands, and the bowels were so matted together that search for the cause of obstruction was impossible. On the advice of Mr. Littlewood, Mr. Atkinson opened the colon as much above the cæcum as he could reach, and after inserting a bone plate of Senn's, selected a coil of ileum, opened it and did the same, and thus performed anastomosis. The operation lasted one hour and a quarter. Twelve hours after the patient had two large liquid stools, and got well rapidly.

Abdominal Section in cases of Ruptured Spleen and Liver.—At a meeting of the London Clinical Society, held March 11th, 1892, Mr. Page related three cases in which abdominal section had been performed for ruptured viscera. These were cases without external wound, in which peritonitis began soon after the accident, and was due to the presence of large quantities of extravasated blood in the peritoneal cavity. In one case the spleen was ruptured, and in two the liver. In the case of ruptured spleen the abdomen was opened forty six hours after the accident, and the complete washing out of blood from the peritoneal cavity gave marked relief, lessened the evidences of peritonitis, and seemed to come very near to saving the boy's life. The injury in the first case of ruptured liver was more severe, and several ribs were broken; here, also, the peritonitis was unquestionably relieved by peritoneal flushing twenty-seven hours after the acccident. In the second case of ruptured liver the injury was complicated by slight laceration of one kidney, and the amount of hemorrhage had been enormous; operation gave no relief. Although the results were so bad, still Mr. Page said he thought the proper treatment of ruptured viscera was early abdominal section and washing out the stagnant blood, which was the cause of peritonitis.

In the discussion which ensued many cases of abdominal section for ruptured visceræ were related, but no recoveries were reported. The general opinion also seemed to be that blood itself did not cause peritonitis, but that when the liver was ruptured and bile extravasated then peritonitis nearly always ensued.

Radical Treatment of Prostatic Hypertrophy.—Eigenbrodt of Bonn (*Beiträge zur Klin. Chir.*, No. 8, 1891) reports five cases of enlarged prostrate operated on by Prof. Trendelenburg, and comes to the following conclusions :—

(1) It has been shown by experience that a radical operation is possible in almost every case of obstructive enlargement of the prostate.

(2) The prospects of prostatectomy are better the earlier the operation is performed, and operations done early and before the development of cystitis are to be recommended in all cases in which the surgeon may avoid setting up inflammation by the operation itself.

(3) Even in far advanced cases much relief may be afforded by operation, and the patient may regain the power of voluntary micturition.

(4) Patients who have been apparently cured by the radical operation are apt to be subsequently affected with persisting weakness of the bladder and accumulation of residual urine.

(5) In obstructive hypertrophy of the prostate, the hindrance to the flow of urine does not consist so frequently, as is generally supposed, in a valvular occlusion of the internal meatus by a prominent lobe of the gland, or by a displaced portion of the vesical wall. The hindrance is more frequently the result of a regular and general enlargement of the vesical portion of the prostate associated with the formation of a cul-de-sac of the bladder. In such cases the surgeon should attempt to promote the free discharge of urine by making a deep wedge-shaped incision at the posterior border of the internal urethral orifice.—(Quoted in *Sup. to Brit. Med. Jour.*, Nov. 9, 1891.)

Norton (*Med. Press and Circular*, vol. civ, No. 4) describes a prostatome which is similar in mechanism to a lithotrite, but both blades have cutting edges that do not overlap, the female blade being so shaped that it will easily glide back over the enlarged prostate after introduction into the bladder, and so hollowed that it will retain within itself the section when cut. He reports four cases, in three of which this instrument, passed by median perineal section, removed a sufficient amount of the prostate to procure complete relief and cure, and says it is his intention to further perfect this instrument so that it may be passed per urethram.—(Quoted in *American Jour. Med. Sc.*, June, 1892.)

Suprapubic Cystotomy for Tumour of the Bladder.—Guyon (*Annales des Maladies des Organes Genito-Urinaires*, ann. x, No. 2) reports the case of a patient who was brought to him in a very anæmic condition, having had frequently recurring attacks of hæmaturia with polyuria for twelve years. Taking into consideration the anæmic condition of his patient, he made no instrumental examination, basing his diagnosis of vesical neoplasm on the constant polyuria with distension of the bladder and the recurrent attacks of hæmaturia. This diagnosis was confirmed by the condition found present at the operation, in which he removed epitheliomata weighing together seven ounces, the patient making a perfect recovery in twenty days. In his remarks on these anæmic cases, he says the first duty of the surgeon is to avoid all methods of diagnosis that will in the least increase the loss of blood, and that, furthermore, he is to guard his patient during the operation from the ever present danger of syncope; he advises Trendelenburg's position in these cases, believing it to have, in threatened syncope, prophylactic advantages as well as those originally claimed for it.—(Quoted in *Amer. Jour. Med. Sc.*, June, 1892.)

Surgery of the Spine.—M. Chipault (*Revue de Chirurgie*, No. 7, 1891), in an article on the surgical treatment of Potts' disease of the spine, describes three cases in which operation for the removal of tuberculous disease was performed. All three cases were paraplegic. The first case, a boy aged 9, had suffered for some months from caries of upper dorsal vertebræ, and suddenly became paraplegic after falling down stairs. Suspension was of no benefit, so operation was performed. An incision was made over the transverse processes of the 2nd, 3rd, 4th, 5th and 6th dorsal vertebræ; the periosteum was reflected outwards and the arches resected. The dura mater was found healthy, but at the 4th vertebra there was found a projection and a compression so marked that the spinal cord seemed altogether wanting. Numerous fungous projections into the canal were scraped away, a large abscess opened and the projecting ridge of bone completely removed, and the cavities in the diseased vertebræ carefully cleaned out. The destruction of the bodies was enormous, and the removal of the disease certainly incomplete. Notwithstanding this the wound healed and the progress was excellent for some time, but a month after the operation the child succumbed to an attack of broncho-pneumonia. At the autopsy the wound was found firmly closed by a mass of osteo-fibrous tissue, but a large cold abscess connected with the other vertebræ was found. In the second case, a girl aged 4½ years, the same region was affected, but not so extensively. The paraplegia was one produced by gradually increasing pressure and not one suddenly produced by displacement. A similar operation was performed. The principal focus of infection was in the posterior of the body of the 4th dorsal vertebra. A drain was inserted into it and brought out across the vertebral canal, between the 4th and 5th dorsal nerves. The cut muscles were sutured and antiseptic dressing applied. Excellent recovery followed; on the fifth day patient could lift the head from the bed. A third case gave similarly good results. M. Chipault formulates his conclusions as follows:

(1) The operation is anatomically possible. It requires skill, but it is easy to avoid injury of the meninges or of the spinal nerve-roots. Drainage and irrigation of the diseased centres through the vertebral canal do not give rise to even transitory disturbances of the medulla.

(2) By direct treatment of tubercular foci we may hope to obtain a result not merely palliative but curative, a result impossible with the methods hitherto employed.—(Quoted in *Dublin Med. Jour.*, June, 1892.)

Removal of Spinal Tumour.—Dr. W. Jones reports a case (*N.Y. Med. Record*, March 12th, 1892) of removal of an extradural spinal tumour in a woman aged 31. She had suffered for seven years, and for three years there had been angular curvature between the scapulæ. At the time of operation there was complete muscular paralysis from the waist down, and anæsthesia from the 9th rib. An incision was made from the 6th to 10th dorsal vertebræ, the laminæ of the 9th, 8th, 7th and 6th were removed, and a tumour loosely connected with dura below, but more closely above, was found extruding from the 5th to the 8th vertebræ; it covered the cord for about 1½ inches, and was the size of an index finger. The patient rallied well from the operation, and the wound healed without suppuration. Sensation began to return on the 9th day, and was present everywhere by the 54th. Seven months later the husband reported that sensation was perfect everywhere, that she walked on crutches, and that her general health was excellent. The tumour was thought to be tuberculous.

Inflammatory Cervical Swelling communicating with the Common Carotid Artery and Internal Jugular Vein.—At the meeting of the Royal Medical and Chirurgical Society of London held Jan. 26th, 1892, Mr. Croft read the details of the case as follows. A young man, aged 22, was admitted into St. Thomas' Hospital, under Mr. Croft's care, on June 4th, 1891. A small swelling had appeared on the right side of the neck, opposite the thyroid cartilage, after a sore throat, eight weeks before admission. At the time of admission the swelling was about the size of a pullet's egg, and situated over the bifurcation of the common carotid artery. No pulsation was observed. During the evening of the second day the swelling rapidly enlarged, and this was accompanied by great pain and a little difficulty in swallowing. The next morning the tumour was found to be strongly pulsatile, with distinct expansile movement, and it was at once decided to explore the swelling. The common carotid trunk, below the swelling, was first exposed; next, the swelling was incised and shown to be in communication with a large artery. It was found necessary, in order to arrest all hemorrhage, to tie the common and external carotid arteries and jugular vein. No pus was found or any definite abscess. Silk ligatures were used. Recovery was complete, though interrupted by a congestion of the left lung. In the discussion which followed, Mr. Timothy Holmes remarked that Mr. Croft's case illustrated the old surgical adage that suppuration around a vessel might lead to communication with that vessel. He had seen an abscess communicating with the popliteal artery. Many cases of simultaneous ligature of the common carotid and internal jugular vein were on record.

A Successful Case of Ligature of the Internal Jugular Vein and Trephining the Lateral Sinus in an Ear case, in which the symptoms of Pyæmia were well pronounced.—Mr. Clutton reports this case (*Brit. Med. Jour.*, April 16, 1892), which was that of a boy aged 10, who was seized with acute pain in head and right ear November 27th; afterwards he had a temperature of 103.4°, with severe rigors and suppuration of middle ear. No tenderness over mastoid or optic neuritis. There was an inflammatory swelling at right angle of lower jaw. Judging from these symptoms that there was probably a suppurative thrombosis of the lateral sinus, it was determined to expose the internal jugular vein as low as possible in the neck, and cut off its connection with the general circulation. The vein was found to have very thick walls, and to be quite collapsed and empty. It was carefully freed, then tied with two ligatures, and divided. The upper end was still further separated and brought out at the upper end of the wound, in order to be able, at a later stage, to syringe through from the lateral sinus. The weak condition of the patient precluded further operative procedures, and at the end of two days, being stronger, the lateral sinus was trephined (one inch behind and a quarter of an inch above the centre of the right auditory canal). As the bone was divided pus began to well up, and on removal of the disc it was seen to come from the occipital side of the opening and from beneath the dura mater. The lateral sinus which occupied the centre of the trephine opening was found, on puncturing with the trocar, to contain pus; it was therefore slit up and washed out. The ligature was now removed from the upper end of the divided jugular in the neck, and the nozzle of the syringe in the sinus directed downwards. A full stream issued from the opening in the neck, carrying with it broken down clot and pus. A swelling in left forearm, which had been steadily increasing, was incised, but found to contain no pus. Two days after the operation the temperature again went up to 104°, and on examining the ankle on left side it was found to be much swollen and very painful, so it was freely incised and found to contain a quantity of pus. After this the boy made a slow and uninterrupted recovery.

Hemorrhage from the Middle Meningeal Artery from Fracture of Skull; Trephining; Recovery.—Bland Sutton reported the above case to the meeting of the London Clinical Society held Jan. 8th, 1892. The patient was a man who was brought to the Middlesex Hospital in an insensible condition, due to falling upon the pavement and striking his head when drunk. Soon after admission the right arm and leg became completely paralysed. The left side of the skull was trephined, and a very large clot of blood found between the dura and skull. To secure the torn artery the bone was removed freely. By means of an electric search-light a fissure in the bone was found to run from the left limb of the lamboidal suture downwards into the tympanum and across the petrous portion of the temporal bone. At this spot the dura was lacerated and the subdural space was opened. After the operation motor power returned, and although cerebrospinal fluid escaped for four days the patient quickly became conscious and made an uneventful recovery. In the discussion which followed, Mr. C. Symonds said he had operated on three cases. In the first case, bleeding was from a deep source and he had controlled it with forceps. After removing a quantity of bone the bleeding ceased, but the man died. In the second case the patient had universal convulsions, and recovered after trephining. In the third case, the patient, a boy, was almost dead. He was rapidly trephined and also recovered. Compression of the common carotid might sometimes be necessary after trephining.

Gangrene after Ligature of the Femoral Vein and Artery.—Mr. Herbert Allingham reported to the meeting of the London Clinical Society, held January 22nd, 1892, the case of a man, aged 28, who was admitted into the Great Northern Hospital for stab-wound of the thigh, near the apex of Scarpa's triangle. The man had lost a great deal of blood, but when he reached the hospital the bleeding had been arrested by pressure. An exploratory operation was immediately undertaken as there was no pulsation in the tibials and the leg and foot were cold and pale. The patient's general condition was bad : he was blanched, had swimming in the head, complained of thirst, and was restless. After applying an Esmarch, the wound was enlarged and the tissues were found much infiltrated with blood and the sartorius cut. On turning out a large blood-clot at the bottom of the wound it was seen that both the femoral artery and vein were completely divided. The vessels were tied, the wound closed, and the leg and thigh enveloped in cotton wool. The patient was then placed in bed and the leg kept warm with hot bottles. Two days after the operation the foot began to have a waxy appearance and the calf became swollen and painful. Next day the foot was gangrenous and slowly spread up the leg to the middle of the calf. For three weeks the leg remained in this condition, then it became moist, and the temperature rose to 105°. Amputation was at once performed through the knee-joint. The interest of the case lay in the facts (1) that the gangrene, when pronounced, did not extend for three weeks, and (2) amputation was performed through the knee-joint. Mr. Harrison Cripps said that the practice should be the same whether due to wound, ligature, or embolism of the artery. The portion of limb which died was usually the foot, with the lower half of the leg. The line of demarkation which should be waited for was usually about four inches below the knee, and amputation should be performed immediately above it.

Ligature of the Carotid for Hemorrhage after Removal of Tonsil.—At a meeting of the London Clinical Society, held April 21st, 1892, Mr. Arbuthnot Lane gave the details of a case of very severe hemorrhage following removal of the tonsil, and for which the common carotid was tied. The patient was 21 years of age, and had his tonsil removed at the Throat Hospital Dec. 16th. At the time of operation and during removal home he lost about half a pint of blood ; on Dec. 19th he lost another half pint. Bleeding recurred on the evening of the 20th and continued steadily in spite of local applications. Mr. Lane saw him on the 22nd, when, as he was evidently dying, his friends consented to his removal to Guy's Hospital. As he was in a very collapsed condition, 3½ to 4 units of normal salt solution had to be introduced freely into the circulation before any operation could be done. He reacted at once, and Mr. Lane proceeded to tie the carotid. The patient left the hospital quite well in a few days.

In the discussion which followed, Mr. Cripps said it was bad surgery to tie the carotid for such cases, as half the patients died from brain symptoms or softening, and a considerable number perished from recurrence of the bleeding. The chief blood supply of the tonsil was from the external carotid, and this vessel should be ligatured between the superior thyroid and lingual; after its ligature recurrent hemorrhage is very rare. Mr. Lane, in reply, said the reason he did not tie the external carotid was because the branches from it arose all together, and he was obliged to tie the common. He had had no cerebral trouble after tying the vessel, because in the cases in which he had done so he had always injected salt solution, and he believed that if a similar practice were carried out in all cases of ligature of the common carotid it would abolish the complication.

Hypodermic Injections of Carbolic Acid in Tetanus.—Strazzeri and Titone report (*Rif. Med.*, Nov. 10, 1891) a case of tetanus cured by Baccelli's method of hypodermic injections of carbolic acid. The patient was a boy aged 9, who, eight days after receiving an injury, developed well marked symptoms of tetanus. He was treated with injections of a two per cent. solution of carbolic acid repeated every six hours, opiates being given internally. On the 15th day the patient recovered power of mastication, and after four weeks treatment he was completely cured. —(*Supplement Brit. Med. Jour.*, Jan. 2nd, 1892.)

The Operative Treatment of Bronchocele.—Of late years operations for the removal of the thyroid gland have become common and no longer attract much attention. Since the appearance of Kocher's well known paper in 1883, total extirpation of the thyroid has been placed on the list of operations to be performed under very special circumstances, and where no other means of relief is available. The isthmus has been divided for relief of pressure symptoms, and success has attended the various injection methods in cystic disease of the gland. For solid growths, enucleation is rapidly taking the place of extirpation. Prof. Reverdin (*Revue de Chirurgie*, No. 3, Mars, 1892) gives a table of fourteen cases in which he has operated with one death. In seven of these, enucleation was performed without a death. He does not at once proceed to operation, but first uses iodoform internally, gr. i three times a day in pill form. Then "when iodoform or any other treatment considered efficacious has been fully tried, and there is, notwithstanding, an increase in the symptoms, gradual but continued enlargement of the gland, persistence or exaggeration of the pain, and interference with the respiration, operative intervention is indicated." He says that the further we progress the more clearly we see that enucleation is the true method, and its application is much easier than was at first sight apparent. By a straight incision over the tumour the thyroid tissue must be carefully laid bare, gradually and slowly incised layer by layer, and at a variable depth from the surface the tumour proper will be exposed to view. "So long as you are doubtful, you are not on the growth," which will be immediately recognized by its brownish-grey colour and its smoother surface. The incision must now be enlarged, and with the aid, preferably, of the finger, the tumour is rapidly enucleated out of its bed of thyroid tissue in which it is lying, to the walls of which it is sometimes adherent. Rapidity is here the order of the day, for it is now the hemorrhage, often alarming, begins, and till the growth is removed it cannot be mastered. The tumour is sometimes covered by thin-walled vessels, which have to be tied as they are easily torn. Reverdin has not yet met with fatal results from this method. The merits of the operation are rapidity of performance and rapidity of healing, and no chance of myxœdema. Socin first brought this method into prominent notice.—(*Dublin Medical Journal*, June 1892, and *London Lancet Editorial*, April 16th, 1892.)

Ununited Fractures in Children.—Mr. D'Arcy Power (*Am. Jour. Med. Sciences*, May 1892), in an article on *Ununited Fractures in Children*, says that they are undoubtedly rare. He himself has collected 71 cases: 7 of clavicle, 9 of humerus, 12 of femur, 42 of leg, and 1 of forearm. They are more commonly met with in boys than girls. Operative measures frequently fail to relieve them. In the 71 cases only 6 obtained bony union. Some received slight benefit from treatment, whilst others submitted to amputation. Mr. Power thinks the causes of non-union are always local, the chief cause being want of rest due to errors in diagnosis or carelessness. The difficulty in fixing the two ends of the bone in a very fat child is very great, but with care the task may be successfully accomplished. Mr. Power lays down the following rules: Diagnosticate the fracture as early as possible, and in every case keep the fragments in perfect apposition. After the fragments have been secured, see that the apposition is maintained by exercising careful supervision and, when necessary, by readjustment of apparatus. In cases of non-union, the prognosis as to subsequent union is bad. In such cases the ends of the bones may be resected and the fracture treated by securing perfect immobility of the bone for a long period; if, however, there be much wasting of either end of the bone, resection will be found useless. In the lower extremity, amputation alone affords the patient relief from his miserable condition.

Stricture of the Œsophagus.—Newman (*Lancet*, vol. i, No. 5, 1892), in an article on the above subject, says organic stricture can be diagnosed without difficulty. History of injury followed by painful deglutition, which passes off in a few days or weeks, and which is followed at some remote period by a constantly increasing dysphagia, without pain, hemorrhage or lymphatic enlargement, would point to organic stricture. The history of an injury is not always clear, and, on the other hand, carcinoma may develop in a case where there is a clear history of traumatism. In carcinoma, the age of patient, the hemorrhage, pain and enlargement of the glands will point to the character of the disease. In carcinoma the prognosis depends on the seat of the disease, whether it is in a position where surgical intervention is possible. If operation is not done, death will ensue sooner or later from starvation. If the disease begins in the upper part of the gullet it is usually rapidly fatal; on the other hand, carcinomatous growths of the lower end of the œsophagus may run a very slow course. Dr. Newman has collected statistics of 556 cases of carcinoma of the œsophagus in which the mode of death was given: 390 died of collapse and exhaustion; inflammation of lung and gangrene, 91; pleurisy, 53; peritonitis, 17; perforation into the heart and blood-vessels, 15. In benign tumours of the œsophagus the prognosis will depend upon the location, size and rapidity of the growth, and whether or not their removal by operation is possible. If situated high up, they may be cut off or ligated, or if pedunculated and soft the parasol probang may dislodge them. Organic strictures, if seen early, may yield to bougies. If a bougie can be passed the prospect of recovery is good, but if no instrument can be passed then gastrostomy should be performed.—(Quoted in *Amer. Jour. Med. Sciences*, May 1892.)

Surgery of the Œsophagus.—Gerster (*N.Y. Med. Journal*, vol. iv. No. 6) presents the following conclusions. If a foreign body becomes lodged in the œsophagus and cannot be displaced downward into the stomach or extracted without the employment of much force, it is imperative to perform external œsophagotomy at once. This operation is comparatively safe, its mortality in all cases being 20 per cent. (*Fischer*). The operation may be difficult if there is a goitre or tumour present. An early operation is safe, a late one dangerous and often useless. Delay should not be more than twenty-four hours. If impaction has existed for more than twenty-four hours, frequent and persistent efforts at dislodgment are apt to be more dangerous than œsophagtomy. In performing œsophagotomy the incision should be made large enough to permit of comfortable manipulation without much traction. The line of incision should be in front and parallel to the anterior border of the sterno-mastoid, beginning a little below the cricoid cartilage and extending to the sternal origin of the muscle; the omohyoid is drawn aside and the lateral margin of the thyroid gland is exposed to act as a guide. The great vessels are drawn out with the sterno-mastoid. Care should be taken not to injure the recurrent nerves. The œsophagus is recognized by its longitudinal fibres; if there is doubt, a urethral sound may be introduced through the mouth or the œsophagus incised on the point of the instrument. When the incision is made into the tube the edges should be held aside with silk sutures. After removal of the foreign body the edges of the cut œsophagus should be brought together with fine silk and the outer wound packed loosely with iodoform gauze. A few silkworm gut sutures should be introduced, but not tied until after the removal of the packing. Feeding by mouth is permitted at once, only small quantities of liquid substances being given. Where ulceration and sloughing has occurred, suture is not practicable and rarely safe. The wound should be packed and allowed to heal by granulation. The stomach tube will be necessary in these cases, and may be inserted into the wound or the mouth.—(Quoted in *Amer. Jour. Med. Sci.*, May 1892)

Retro-Pharyngeal Abscess in Infancy.—Mr. Pollard discusses this subject in a paper recently published (*Lancet*, Feb. 13, 1892), and gives a report of four cases. In each of the four cases the abscess had no relation to spinal caries, and was evidently an entirely local affection. He says two views have been advanced to explain the occurrence of these abscesses—one, that they depend on an acute phlegmonous inflammation induced in a similar manner to acute abscesses elsewhere, and the other, that they are dependent on an adenitis, which is secondary to inflammation of one of the neighbouring mucous surfaces. Dr. Edmund Simon has described lymphatics in the retro-pharyngeal region which terminate in glands situated on each side of the median line, between the pharynx and the aponeurosis of the prevertebral muscles. These glands disappear about the third year of life. There is much in favour of this view, especially the fact that nearly all the cases of retro-pharyngeal abscess occur in young children and are unilateral. When the abscess appears, the question arises, should it be opened from the mouth or by an external incision in the neck. The latter method is advised by Mr. Pollard after the manner recommended by Mr. Chiene for retro-pharyngeal abscess connected with spinal caries. This method of operating is well known to surgeons, and was not introduced by Mr. Chiene, but by the late Mr. Hilton, and it is described in full in his lectures on " Rest and Pain," which were published thirty years ago. I do not know how it is that this method of operating is always attributed to Prof. Chiene. I quote from Mr. Hilton's book his description of opening a post-pharyngeal abscess. "I carefully made an incision, about half an inch in length, with a lancet through the sterno-mastoid muscle, thus exposing the fascia underneath it; I then thrust a grooved probe or director through the fascia towards the back part of the pharynx, when a little stream of opaque fluid came trickling down the director. I then ran the dressing forceps along the grooved director, made an opening into the deep abscess and let out three or four ounces of pus. The exit of the pus was aided by passing the finger into the child's mouth and pressing upon the posterior wall of the pharynx." I have frequently pointed out this passage to surgeons and others who have quoted Mr. Chiene in this connection, and have myself opened retro-pharyngeal abscesses in this way for more than fifteen years. One of the first cases I operated on was in a child aged 9 months, a patient of Dr. Geo. Ross'. Here there was no cervical disease. I have operated on many cases since, and always with the happiest results. The operation is a simple one, and entails not the slightest risk, especially when performed after modern aseptic methods.

I can testify also to the presence of these post-pharyngeal glands, for I have removed them from children when operating on the neck for the removal of strumous glands. I removed these glands a few weeks ago from a boy aged 10, a patient in my wards at the Montreal General Hospital who was the subject of strumous enlargement of all the glands on both sides of the neck. I have opened retro-pharyngeal abscesses in infants only a few weeks old, and never had the slightest trouble operating after Hilton's method.

Nerve-Grafting.—At the meeting of the London Clinical Society held March 11th, 1892, Mr. Damer Harrison read a paper on a case of *nerve-grafting*. The patient, a boy æt. 13, eleven weeks before, cut the median nerve, together with all the flexor tendons, at right wrist with a piece of glass. On admission to hospital, June 4th, 1891, the fingers were immovably fixed in the flexed position, paralysis of both motion and sensation being complete in the parts supplied by the median nerve. Trophic changes were also present, the hand being blue and cold and the skin glossy. On exploring the site of the injury the tendons were found matted together and two inches of the nerve destroyed. After uniting the tendons the nerve-ends were freshened, thus increasing the separation to two inches, and a graft two inches and a quarter in length, taken from the sciatic nerve of a recently killed kitten, was fixed in position by one fine catgut suture passing through the ends of the graft and the cut nerve. Sensibility began to return at the end of forty-eight hours. At the end of three months the nutrition of the hand began to show great improvement, but there was no signs of returning motion for five months, and now patient could oppose finger and thumb, and was still improving. The reader of the paper quoted ten cases in which grafting had been employed, three of which had been completely successful, six partially successful, and only one proving a failure.

Surgery of the Gall-bladder.—Dr. Ivanhoff has collected the particulars of 278 cases of surgical interference with the gall-bladder on account of gall-stones or distension from obstruction; 30 cases were in males and 185 in females, and the majority occurred between the ages of 40 and 50 years. In 64 cases the diagnosis was not made out, in 13 it was doubtful, and in 24 it was mistaken, being correct in the remaining 177. In the 24 cases the diagnosis was: in 7, movable kidney; 6, hydatids of liver; 3, tumour of omentum; 1, ovarian tumour; 1, cancer of gall-bladder; 1, cancer of stomach, and 1, acute peritonitis. In 120 cases there was a perceptible tumour in the region of the gall-bladder. In 48 cases jaundice was present, due in 10 cases to malignant disease. In 40 cases impacted stone was found, and stones found in some part of the biliary passages in 140 cases. Empyema of gall-bladder was found 16 times. Of the whole 278 cases, 36 (13 per cent.) were fatal. The immediate causes of death were: collapse, 9; uræmia, 1; peritonitis, 8; hemorrhage, 6; cancer, 7; pulmonary tuberculosis, 7; pulmonary embolus, 1; and in 3 cases the proximate cause of death could not be made out. The resulting fistula took from five weeks to three years to heal.—(Quoted in *London Lancet*, April 30, 1892.)

Treatment of Suppurative Cholecystitis.—H. Snider records an interesting case of gall-bladder surgery (*Berlin. Klin. Woch.*, No. 11, 1892) in a patient, aged 28, who had some time previously suffered from perityphlitis, which had yielded to treatment. She now had a train of symptoms which pointed to suppuration of the gall-bladder, so an incision was made along the outer edge of the right rectus muscle and the gall-bladder exposed. It was found enormously distended, and on incising it a quantity of pus and a fair-sized calculus escaped. The gall-bladder was fixed to the abdominal wall, thoroughly washed out and drained. In a few days the discharge of pus gave place to a discharge of bile, and the patient made a speedy recovery, leaving hospital in five weeks with a biliary fistula. Three months later she returned, with colic and other symptoms as bad as before. The fistula still discharged bile. On enlarging the opening the finger passed into a canal which extended upwards and backwards in the direction of the liver, and ended in a *cul-de-sac.* Here a calculus was felt, separated from the canal by a membrane, which was apparently the thickened wall of the bladder. The liver and gall-bladder were exposed by an abdominal incision, and it was then found that the latter was divided into two compartments by a band of cicatricial tissue, and that the return of the trouble was caused by the impaction of the calculus in the opening of communication between the two compartments. The stone was removed with great difficulty, but the patient made an excellent recovery, with subsequent closure of the biliary fistula.—(Quoted in *Dublin Medical Jour.*, June, 1892.)

YNÆCOLOGY.

M.D.,
versity.

one year and nine
reports a case of
1891. The little
disease of the right
mination a large, irreg-
half of thick pus, was
lung, surrounded by
deposits were also found
lobes, the liver and
that of the pelvis, was
moving the sigmoid flexure
pelvic brim, which was
in the left broad ligament.
distended with pus. The
communication with the broad liga-
of both tubes were healthy.

Laparotomy.—Dr. A. P.
a most unfortunate case of death
states that from the beginning the
and that hypodermic injections of
ored. The case was one of double
recovering from the effects of the
and scream at the top of her voice until
all efforts to comfort her. There was
throughout, nor evidence of intra-abdomi-
the beginning the lung contained a large
and the heart's action ran high (130). The
$\frac{1}{150}$ grain each of glonoin and atropin
tincture of digitalis and strophanthus, ten
two hours. The atropia produced such dry-
and thirst that the patient broke away from
helped herself to a large quantity of water.

On the night of the fourth day a puffy condition made its appearance on the right side of the neck; this increased and gave a crackling sensation to the touch. The patient had now smuggled a quart bottle of water into her bed and been quietly drinking the contents whenever opportunity afforded. Violent vomiting now came on, and the swelling in the neck began to spread over the face. The patient became very violent, screaming at the top of her voice, thus increasing the emphysema until it had passed almost over the whole body. She died on the evening of the fifth day from cardiac compression.

[The reviewer, in giving a short abstract of the above case, would say that Dr. Dudley has really overlooked the most interesting part, viz., that it was apparently a case of acute mania following operation, and should have been so styled. The emphysema was not of so much interest, as it was a mere accidental incident in the maniacal affection, but was undoubtedly the immediate cause of death. The point of greatest interest, however, was omitted. Dr. Dudley should have inquired carefully into the family history of the patient, for it has been proved that patients who became victims to mania after operation had a strain of insanity in the family history. The reviewer would also note that it is not good practice for a surgeon, after operation, to dose his patient with strong and uncertain drugs with the view of relieving intercurrent symptoms which do not really mean any danger to the patient, and which will pass if sufficient time be allowed.]

Vermiform Appendix and Fallopian Tube — Associated Streptococcus.—Dr. HUNTER ROBB reports a case in the *Johns Hopkins Bulletin*, from which he draws the following conclusions. The case is a very unique and interesting one in several aspects, and suggests many important considerations:

(1) The unusual condition of pyo-salpinx of one side with appendicitis, salpingitis, and ovaritis of the opposite side, both the right tube and appendix containing the streptococcus pyogenes.

(2) The duodenal ulcer as a possible sequela of the cauterization of the pedicles and appendix. The ulcer, though recent, appears to be rather too far advanced to be regarded as due to

the operation, and there are no observations which show that gastric or duodenal ulcers follow burns of this character.

That the death was immediately due to the hemorrhage from the ulcer is clearly shown by the anæmia of all the tissues, the large amount of blood in the intestines, and the eroded vessel in the ulcer.

(3) The presence of the segment of a tape-worm in the intestine and vermiform appendix, which might possibly have acted as a foreign body and had some connection with the appendicitis.

(4) Although it cannot be definitely stated that the infection extended from the appendix to the tube, the presence of the streptococci in and about the appendix and in the tube, on the same side, and its absence in the other tube, speaks for this view.

(5) It demonstrates the uselessness of a drainage-tube in the presence of virulent organisms, which, on the contrary, would diminish the resistance of the tissues and do harm by its presence. In this case it would not have drained, as the greater portion of the purulent fluid was walled off from the peritoneal cavity, the infection being thereby limited, and not of itself producing the fatal issue.

The Indications for Total Extirpation of the Uterus through the Vagina.—Dr. SCHAVTA (*Münch. Med. Wochenschr.*) records sixty-five cases operated upon by himself, of which but five resulted unfavourably. The best results were reached by the extra-peritoneal fixation of the entire pedicle and complete closure of the peritoneal cavity and supra-vaginal wound space. The cases operated upon for carcinoma show an immunity from recurrence for the space of two years, to the extent of 47.3 per cent. of the entire number. The indications may be briefly summarized as follows:

(1) For uterine carcinoma, all cases, whether of body or cervix, should be submitted to this procedure at once. The occurrence of infiltration of neighbouring parts need not necessarily serve as a contra-indication, the operator being only guided by the extent of this. In any event, healthy tissue must be reached, if the operation is undertaken. The surface of the

vagina, for instance, may be invaded, while its deeper structure may have escaped. Anæsthesia and curetting are especially recommended as aids to diagnosis. Carcinomatous infiltrations are rigid, non elastic, and diffused ; inflammatory exudates are yielding, elastic, and more distinctly circumscribed.

(2) Under certain circumstances the operation may be performed for prolapsus uteri, where other measures of relief have failed, and in which the pelvic floor has undergone marked atrophy, as well as in cases in which the prolapsus is complicated with myoma, or becomes irreducible from any cause. In addition to this, cases of uterine myomata complicated by pain and hemorrhage, and in which the uterus body is not developed beyond the size of a fist ; cases of large myomata, after enucleation of the same by means of laparotomy ; and finally, for recurrent glandular endometritis in which there is a suspicious tendency to malignant degeneration of the endometrium.

(3) Contra-indications to the performance of the operation, in adition to those mentioned above, relate to absolute narrowing of the pelvis, in cases where the uterns cannot be reached from below nor drawn down. In cases of narrow or cicatricially stenosed vagina, the latter may be incised laterally in its entire length and sufficient room thereby obtained.

The Ultimate Results of Operations for the Removal of the Uterus or its Appendages.—Dr. HOWARD A. KELLY (*Brooklyn Medical Journal*) says :—The surgeon and patient are often mutually engaged at cross purposes, the surgeon operating for a tumour or inflammatory mass, while the patient simply requests relief from pain. The removal of the tumour does not always remove the ache ; and consequently the patient complains that the result is bad, and the surgeon affirms that it is good. We should therefore use the word *results* to define the condition of the patient after an operation, both in regard to the operation performed and to the measure of relief attained from those subjective disturbances which have apparently been caused by the disease. The *result* is, then, the condition in which the patient finds herself at any time after the operation, which can in any way be attributed to or connected with the operation, positively or negatively. *Proximate* results are those immediately following upon the operation. *Remote* results are either the immediate consequences which persist, or those new features which develop after months or years, as issues of the operation. The time value of the word remote varies greatly. In case of an operation for cancer, a few months often determines the remote result in the recurrence of the disease, while after removal of the tubes and ovaries, several years are often needed to determine the remote results. I will therefore discuss, in a general way, the results of operations in :

(1) Nervous diseases, which include all those affections in which local and reflex disturbances are pronounced, without any, or with but slight demonstrable pathological changes, such as ovaralgia, neuralgia of the ovary, so called chronic ovaritis, peri-oöphoritis, with slight adhesions. The immediate and remote results of radical operations in these cases are almost uniformly bad. The patients continue to complain indefinitely of all their old symptoms with the aggregation of a horde of new ones peculiarly trying to weakened nerves. Thus are added all the symptoms of the menopause, artificially induced and greatly exaggerated ; the flushes are worse and more frequent, the sweatings profuse, the headaches severe, peculiar giddy feelings often arise, palpitations and shortness of breath are common, digestion is disturbed, abdominal pains, the patients say, are worse than before, the back aches, defæcation is painful, and walking difficult, on account of the pains down the thighs ; and if there are any more symptoms in the category of female complaints, add them to the list, for the patient will immediately recognize each ailment, and claim it as her own.

(2) Simple cystic diseases. The ultimate results are good in these cases, such as a large cyst of a Graafian follicle, sometimes as large as an orange, or a cyst of a corpus luteum, half as large. The pains which hung around the pelvic girdle, and centered in the diseased organ, are definitely removed ; and that without the distressing phenomena of an artificially induced menopause, because the fellow ovary is usually free from disease, and is not removed.

(3) The ultimate results, in the severe grades of pelvic inflammatory disease, are of the best—enough to fill the gynæcologist with enthusiasm for his work. The remote result is a senile condition of the uterus, hernia occasionally, cramps from bowel adhesions, and irritating vaginitis are the unpleasant results which may persist or arise. The one great common result in these cases is complete restoration to health.

(4) In myomatous uteri the results are a simple removal of the distress occasioned by the tumours. Hernia sometimes follows suspension of the stump.

(5) As to the results in malignant disease of the ovaries or of the uterus, including ovarian cystomata, where the infection has not spread to neighbouring structures, infecting the pedicle in sarcoma, or the peritoneum in papilloma or carcinoma, the result is a lasting recovery. It is important to assure such a result by making the pedicle as far from the disease as possible.

When epithelioma attacks the cervix the problem is a difficult one. Recurrence is almost invariably the rule. The patients have from a few months to a year of respite, and then, slowly, the disease returns, choking the pelvis, producing the peculiar cancerous marasmus, and the patient dies of exhaustion or nephritis.

Curetting Early in Puerperal Infection.—M. CHARRIER discusses (*Archives Générales de Médicine*, Aug. 1891) early curetting as a prophylactic and therapeutical measure in puerperal infection. It is only of recent years that the uterus after delivery has been looked upon as a wounded surface ; and the difficulty of keeping this wound healthy and aseptic is shown by the not inconsiderable number of women in whom delivery, and more especially abortion, has been the starting-point of a number of more or less serious accidents. The fever may be of short duration, and the infection an attenuated one, but as soon as the patient returns to her ordinary life the trouble begins. Most often the operation of early curetting is one of urgency, and there is little time for preparing the patient. M. Pozzi looks upon repeated shivering, a temperature of over 39°C. in the axilla, the general state of the patient, the pulse, etc., as affording pressing indications. The curetting is done in much the usual way, with strict antiseptic precautions, and with gentleness; a blunt and non-cutting instrument being used. The uterus is washed out, and the cavity tamponed with iodoform gauze. Anæsthesia is not necessary. The amount of fœtid *débris* brought away may be extraordinary. The author says that this treatment is indicated in cases of slighter infection, when abdominal tenderness, less marked fever, and fœtid lochial discharge are present. Antiseptic injections may render the *débris* powerless from a bacteriological point of view, but such patients do not thoroughly recover. The objections raised against this treatment are that intra-uterine washing out is most often sufficient; and secondly, the supposed gravity of curetting the uterus after delivery. But if anything remains behind in the uterus these injections cannot be counted upon; and again, if the operation is done with care, it is never followed with evil consequences. Puerperal accidents, rare now-a-days, will no longer be feared if washing out the uterus and curetting be used. If this treatment of puerperal infection has not as yet passed into practice, it is because it has been adopted too late in the case, or has not been carried out with the necessary precaution. If this be done, the maladies of the uterus and appendages appearing later will be diminished in number.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

CONDENSED REPORT OF MEDICAL CASE UNDER THE CARE OF DR. WILKINS.

(Reported by Dr. H. J. Wasson, House Surgeon.)

Pneumonia Treated by Cold Baths.

Richard B., aged 20, admitted to the General Hospital May 7th, 1892, complaining of pain in the back and left side, with headache. Present illness began three days previous to admission, with pain in the left shoulder, cough and expectoration. These symptoms becoming worse next day, he had to stop work and go to bed. He had several chills during the day, but no rigor. Saturday evening, on entering the hospital, temperature was $103\frac{4}{5}$°, respiration, 30; pulse, 90.

Personal History.—Habits good; occupation, brass polisher. He had pneumonia eighteen months ago; otherwise he has always enjoyed good health. Family history negative.

Patient is a medium sized man, well nourished; muscular system fairly well developed; skin moist, but very hot; face slightly flushed; pupils moderately dilated; alæ nasi dilate with expiration; lips dry; tongue covered with a thin white fur, which becomes brown towards the centre. Patient lies on the right side and complains of a continuous pain just below the left nipple becoming severe on deep inspiraton. Respirations 30, costo-abdominal in character; expansion markedly diminished on the left side, especially over the front of the chest. Percussion note and vocal fremitus not altered; breath sounds slightly weakened on the left side. Back of the chest: there is diminished resonance on percussion over the left side, most marked in the inter-scapular region; breath sounds and vocal resonance diminished in the same area; no adventitious sounds are heard. High in the left axilla there is bronchial breathing, bronchophony, and a mucus click on inspiration. Cough is troublesome; expectoration free, consisting of frothy mucus mixed with tenacious, viscid, rust colored mucus; heart normal; liver and splenic dulness not increased; urine clear, rather dark in color, acid in reaction; sp. gr. 1025, slight trace of albumen present, no sugar; chlorides are slightly but not markedly diminished. The case was diagnosed as one of pneumonia of the left upper lobe, and he was put on sulphate of quinine gr. iv. every six hours and a bath ordered to be given whenever the temperature rose above 102⅗°; temperature of baths 85°, reduced to 68°. The first bath was given on the 8th, the day following his admission, at 2.30 p.m. Before bath, temperature was 104.2°, respirations 32, pulse 100. Duration of bath twelve minutes. Temperature in bath 101½°; 30 minutes after, temperature was 99°, respirations 24 and pulse 84.

His temperature remained down until the following morning when it began to rise, and at 9.30 a.m. another bath was given. Patient's temperature then was 104.2°, respirations 36, pulse 116. He was kept in the bath 11 minutes; temperature on removing was 100.5°; half an hour after, temperature was 99⅖°, respiration 32, pulse 88, but it immediately afterwards began to rise, and at 2 p.m. temperature was 104⅘°, respirations 40, pulse 100; a bath was given lasting 12½ minutes, on removal temperature was 101⅘°; half an hour after, temperature was 100½, respirations 26, pulse 88; at 4 p.m. temperature was 104.2°, and at 6 p.m. temperature was 104°, respirations 28, pulse 120; a bath was given lasting 12½ minutes, temperature on removal was 99⅘°; half an hour after, temperature was 99⅘°, respirations 28, pulse 78. His temperature did not remain down, but rose steadily, and at 9 p.m. temperature was 104°, respirations 30, pulse 108; a bath was given lasting 12 minutes, on removal his temperature was 101°; half an hour after, temperature was 99⅘° respirations 26, pulse 90. Patient slept well during the night, his temperature remaining below 103° until the afternoon of the following day (the 10th) when it began to rise, at 4 p.m. it reached 103½°, and at 6 p.m. when his last bath was given temperature was 104°, respirations 32, pulse 92; duration of bath was 12 minutes, temperature on removal was 100°; half an hour after, temperature was 98°, respirations 26, pulse 78. At 8 p.m. patient was asleep and slept until 4 a.m.; his temperature was then 102°, respirations

24, pulse 90; it continued falling, and at 10 a.m. reached 98°, and since that time it has been below 98½°. The average fall after the bath was temperature 5°, pulse 6, respirations 21.7. Cough and expectoration were, as a rule, increased during and after the baths; headache was relieved and he usually slept for one or two hours. On the 11th, the fifth day after entering, and seventh of his illness, physical examination shows expansion to be increasing on the left side, dulness diminishing and large crepitant râles are heard both in front and behind over the affected area; no albumen present in the urine. On the 18th patient allowed to sit up and was put on full diet. Physisical examination reveals only a little harsh breathing over the left side of the chest. Patient was discharged on the 23rd, the sixteenth day after admission, feeling perfectly well.

CONDENSED REPORTS OF SURGICAL CASES UNDER THE CARE OF DR. RODDICK.

(Reported by Dr. J. R. Spier, House Surgeon.)

I.—*Ununited Fracture of Femur.*

J. A. J., aged 24, was admitted Feb. 6, 1892, suffering from an ununited fracture of the thigh, the result of a railroad accident on May 22, 1891. He is a native of British Columbia and has always lived there in a healthy district; is a trainman; has had none of the diseases of childhood; has had gonorrhœa and soft chancres several times, but there is no history of syphilis. Uses liquor moderately, but tobacco to excess. No history of rheumatism or gout. Family history negative.

Present trouble dates from May 22nd, 1891, when, while working on an engine, it was wrecked. He was jammed in the wreck, his right leg being twisted about a post. He was taken to the Kamloops Hospital and a compound fracture of the thigh found at about the middle. The limb was put in a double inclined splint and extension applied, which, however, was shortly discontinued. At the end of a month the external wounds had healed, and in another month the splints were removed. Partial union had occurred, but the fragments were overriding each other considerably. The union was broken up and the fragments readjusted. Coaptation splints and extension were applied and kept on for two months, when they were removed and some union found, but separation and riding of fragments soon reoccurred. The leg was again put up, extension being obtained by the use of Liston's long splint, but no favorable result being obtained patient was sent here. During his confinement to bed he had an attack of renal colic, relieved completely after several days by passage of a small stone.

Present Condition.—A healthy looking young man; appetite good; bowels constipated; lungs show no sign of disease; pulse 86; irregular in rhythm and volume. Heart's action irregular; no adventitious sounds. Urine normal.

Examination of Limb.—Right leg from the anterior superior spine of ilium to the inner malleolus is 2½ inches shorter than the left, and the whole limb is considerably atrophied. At the middle of the thigh the following signs are to be noticed: A large mass of callus can be felt partially surrounding the ends of the fragments. On manipulation considerable antero-posterior and slight lateral movement of the fragments can be made out. This is attended by no pain. There is well marked deformity of the limb, the upper fragment being drawn forward and outward and rotated outward, while the lower is drawn backward and inward. On each side of the thigh at this point are the scars of the old wounds. The movements of the knee and ankle are much limited.

Treatment.—Feb. 11th, patient etherized and parts thoroughly cleansed. A straight incision was made over the hard prominence on the front and to the outer side of the thigh reaching the bone. By now bending the leg (convexity outward) the upper fragment was easily protruded through the wound and the lower fragment with some difficulty. The periosteum having been dissected up, the ends of the fragments were sawn off obliquely in such a manner that when the leg was straightened they accurately fitted on to one another. The ends were now fastened together firmly by two strands of heavy silver wire introduced through small bradawl holes made for the purpose. The ends of the wire were left hanging out of the wound. A counter opening was made in the lower and outer portion of the thigh and a drain (rubber) introduced. All bleeding having been stopped and parts washed, wound was closed with catgut sutures and a small rubber drain introduced into the upper angle. A light dressing of gauze and absorbent cotton was applied; outside this, four coaptation splints of hard rubber, and outside this the usual dressing of teased gauze and a rubber. An extension of 4 oz. weight by means of pulley was applied.

February 12th.—Temperature normal. General condition good and is not suffering much pain.

March 10th.—Patient's condition has remained good. No bad effects following the operation. During the last week has had an attack of tonsilitis. To-day the dressings were removed for the first time. Wound found in a healthy condition and united in its whole course. Tubes were removed. Light dressing and the coaptation splints reapplied. The wires were untouched and extension was not reapplied.

March 25th.—Patient complaining of some irritation; the dressings were removed and parts washed and dressings reapplied in the same way. Union has taken place between the fragments. General health remains good.

April 23rd.—Dressings removed and parts washed. Patient was etherized. A small incision was made down upon the wires, which were cut and removed; a simple dressing was applied, and a dressing of plaster of paris applied. Union was quite firm. No ill effects followed the operation.

II.—*Gonorrhœal Synovitis of Left Knee—Excision.*

X. G., aged 30, coachman, entered the hospital Oct. 20th, 1892, complaining of a fixed and swollen left knee joint.

Personal History.—Uses liquor and tobacco moderately. No history of any illness before last April. In April, 1891, a few days before the trouble started in his knee, he noticed a yellowish discharge from the urethra. This was accompanied by the usual signs of gonorrhœa. Family history negative.

Present Illness.—On the evening of the 29th of April, while walking about the house, the left knee joint suddenly became stiff and painful, with shooting pains up and down the leg and thigh. The patient at once took to bed, the joint commencing to swell. The joint continued to swell and reached its maximum at about the end of three weeks. The leg became semi-flexed, the contraction increasing with the swelling and pain. The pain was constant, of a shooting character, but increased in severity at night. Towards the end of July the knee had assumed a flexed position. He was sent to Notre Dame Hospital and treated by extension by weight and pulley. This straightened the limb considerably, but it remained painful. He was discharged Sept. 28th, 1892, but in a short time his leg became as badly flexed as ever, and he entered the Montreal General Hospital Oct. 20th, 1892.

Present Condition.—Apparently healthy, well nourished man; appetite good; bowels regular; lungs, heart and urine give no sign of disease.

Examination of Part.—The joint is fixed. The leg semi-flexed upon the thigh. There is swelling chiefly confined to the lower end of the femur. Patella is fixed and immoveable. Attempted moving of the joint causes great pain. Measurement over patella shows a slight increase in size. No difference in temperature of two joints.

Treatment.—For the first week hot fomentations of lead and opium were applied and limb kept at rest.

October 31st.—Patient etherized and adhesions in the joint broken up by forcibly flexing and extending the leg. A McIntyre splint was then applied and an ice bag on the knee.

November 7th.—A good deal of inflammation followed above treatment, but quickly subsided. To-day commenced extension and flexion of the knee by means of the splint. This caused great pain. Ice bag still continued.

November 16th.—Patient is able to flex and extend the limb by aid of the splint to a slight degree without much pain. Ice bag discontinued.

December 3rd.—Condition of the limb not having improved any further, excision of the joint was decided on, and to-day Dr. Roddick performed the operation as follows:—A curved incision was made passing slightly below the centre of the patella. The flap was dissected up, the patella sawn across the centre, and the joint opened. The articular surfaces of the three bones were firmly united by large quantities of fibrous adhesions. The articular surfaces of the femur and tibia were removed after the plan suggested by Professor Fenwick, leaving a convex surface on femur fitting into a concave surface on tibia. The articular surface of patella being removed, the two fragments were sutured by heavy chromisised catgut and the wound closed after thorough irrigation. Two McKeown's nails were driven upwards and inwards through the head of the tibia into the femur, holding the limb firm. Catgut drains were introduced on each side. A posterior splint prepared from Gooch's splinting and accurately fitting the whole leg was now adjusted, also an anterior iron splint with a bracket opposite the point, as suggested by Dr. Watson of Edinburgh, all held firmly in place by plaster of paris bandages, leaving a window exposing the whole extent of the wound. The usual dressing of gauze, absorbent cotton and rubber was now applied.

December 8th.—To-day the dressings were removed, the splint not being interfered with and union by first intention found to have taken place; every second suture removed; parts thoroughly washed and dressed as before.

December 18th.—Dressings removed and wound found to be healthy. Some suppuration (causing occasional slight rise in temperature) occurring about the nails, they were removed, as also the remaining sutures, and parts dressed as before.

December 30th.—Since the last dressing the temperature has continued normal. Dressings removed and a simple gauze dressing applied. Firm union of bones.

February 8th.—The patient was discharged to-day on crutches, flannel bandage only applied to prevent swelling.

May 1st.—Patient is quite well and able to walk without the aid of a stick, and has resumed his work as coachman.

CONDENSED REPORT OF SURGICAL CASES UNDER THE CARE OF DR. SHEPHERD.

(Reported by C. F. Martin, M.D., House Surgeon.)

I.—*Umbilical Hernia—Radical Cure.*

Michael O'G., aged 61, entered the Montreal General Hospital on May 25th, 1892, complaining of a small painful swelling in abdomen, situated near navel; also of vomiting, syncopal attacks and great weakness. In March, 1892, he first noticed this swelling, which was unaccompanied by any other symptoms until about May 10th, when it became obviously larger and caused slight pain when patient coughed. From this time on tumor increased in size, becoming more and more painful up to day of admission. On May 23rd he for the first and only time vomited, but the other symptoms becoming alarming he entered on May 25th.

Condition on Admission.—Much prostration; pulse small and rapid; respirations labored and painful; abdomen very painful and exquisitely tender just above and to right of the umbilicus, where a tumor is seen about size of an egg, soft and movable, and dull on percussion. In addition, patient has a double inguinal hernia which has existed for a number of years, and for which he wears a truss. Patient was examined, and after trying for a moment to reduce the mass by manipulation, Dr. Shepherd decided to operate, suspecting an omental hernia. Accordingly after the usual preliminaries, an incision 2½ inches long was made above the umbilicus in the median line and the skin and subcutaneous tissues divided. Immediately the omentum was reached and found protruding through the linea alba and constricted by the dense aponeurosis beneath; no bowel accompanied the omentum. The protruding portion was tied and cut away with scissors and the pedicle returned into the abdomen. The ring was next closed with three silkworm gut sutures and the skin incision similarly sutured, no drain being employed.

Patient, who was an old alcoholic, recovered poorly from the ether and for several nights suffered from delirium. On the third day, however, he resumed his normal condition and continued thenceforth to improve. Severe coughing spasms for a few days occasioned much abdominal pain, but were finally controlled by suitable remedies. On the eighth day the stitches were removed showing a clean and perfect union.

On the fifteenth day patient sat up in a chair, and on the twenty-first day left the hospital quite well. He returned June 27th and stated that he suffered no trouble of any kind and had resumed his occupation on the messenger service.

II.—*Congenital Inguinal Hernia in a Child—Radical Cure by a Modified Bassini's Operation—Satisfactory Result.*

Ernest G., aged 6 years, was admitted to hospital in April, 1892, complaining of swelling in left groin, which disappeared on lying down. Two weeks after birth the swelling was first observed by parents and recognized as a hernia; a truss was worn for several years, but failed to keep up the hernia, so patient entered hospital for operation.

When admitted, child was in good general health with no evidence of disease in any of the organs. The swelling in the groin presented all the symptoms of inguinal hernia and Dr. Shepherd decided upon operation for radical cure.

Operation, May 6, 1892.—The primary incisions were made in the usual manner, but the sac was found to be unusually large and the cord very difficult to isolate. The latter after being finally separated from the sac and the canal slit up, was transplanted to the outer end. The sac itself was cut off above the testicle and closed with continuous catgut sutures so as to form a new tunica vaginalis. The upper end of the sac was separated well up to the abdominal cavity and tied off, the ligatures being fastened to the abdominal wall, as recommended by Barker, of London. The ring was closed with silkworm gut by suturing the conjoined tendon to Poupart's ligament, the superficial structures being separately sutured. As mentioned above, the cord was transplanted to the outer angle of the wound and covered by skin and fascia and the aponeurosis of external abdominal oblique. The wound was drained at its inner end with a few strands of catgut and dressed with sterilized gauze and absorbent cotton, the whole being covered with crinoline.

Recovered well from the ether and with the exception of transient œdema and temporary orchitis, he had no untoward symptoms.

Dressings were removed on thirteenth day and showed good union, though the catgut sutures had evidently proved less satisfactory than the silkworm gut under similar conditions. A fortnight later patient was well enough to sit about and walk around the ward with care, and a few days later, when bandages were finally removed, no signs were left of the hernia except a slight inflammatory exudation beneath the skin at the site of the operation.

Reviews and Notices of Books.

Transactions of the American Dermatological Association. Fifteenth Annual Meeting. G. T. Jackson, M.D., Secretary.

This volume of Transactions is decidedly improved by having abstracts of all the papers introduced before the discussion. Formerly only the discussion was reported and no account given of the paper, and the result to the reader was on this account very unsatisfactory. The most important papers are those on Cutaneous Tuberculosis by Drs. J. C. White, Bowen and Fox. This subject is treated clinically and pathologically by the first two, and its treatment is fully discussed by Dr. G. H. Fox. We notice papers by Drs. Duhring, Morrow, Bulkley, Taylor, Hyde and others. Molluscum Contagiosum is discussed in two papers by Drs. J. E Graham and A. B. MacCallum of Toronto. Dr. Shepherd of Montreal reports an interesting case of Sarcoma, involving the skin of the arm. Dr. Bronson of New York gives one of his valuable contributions on Pruritus. In all, twenty-seven papers were read and discussed. We should like to see fuller reports of the papers, but many of them are published elsewhere.

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Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, May 27th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Contracture of the Muscles of the Calf of the Leg following Injury.—DR. ARMSTRONG showed a man who, two years ago, had fallen from a scaffold producing a hemorrhage into the spinal cord. There had been paralysis of motion for five weeks and of sensation for seven weeks; control over the sphincter of the rectum had not been lost, but he had to be catheterized. An after result had been the permanent contraction of the calf muscles producing talipes equinus with a slight varus. Dr. Armstrong three weeks ago divided the tendons and put the feet up in plaster of Paris splints, these had just been taken off and the man can now walk pretty well, the feet being placed flat on the ground.

Malignant Disease of the Rectum.—DR. ARMSTRONG showed a man upon whom he had operated twice for malignant disease of the rectum. The patient came first to him in September last with a small mass in the wall of the rectum and which was freely movable on the surrounding parts. A partial excision was then performed; the wound healed well. This spring a return of the disease was observed and Dr. Armstrong removed three and a half inches ot the whole circumference of the rectum after a careful separation of the prostate and surrounding parts. Three weeks ago the patient began to develop peculiar nervous symptoms, he had a convulsive seizure very like that of epilepsy, the spasms would begin in the right hand run up the right arm and affect the whole of the right side and slightly the left. He had a second seizure in the course of a week and last week had two more. An examination of the eyes at first proved negative, but on two subsequent occasions there was found evidence of slight optic neuritis. These peculiar symptoms are probably due to secondary carcinomatous deposits in the periphery of the brain, thus producing the Jacksonian epilepsy by irritation of the motor tracks.

Abscess of the Brain following a Compound Comminuted Depressed Fracture of the Skull.—DR. FINLEY exhibited a portion of the brain in which the abscess was situated. An opening in the left frontal bone was present, and a depressed fracture involving both tables at each extremity of the opening. The abscess was situated in the substance of the left frontal lobe in front of the depressed bone, beneath the first and second frontal convolutions, containing about six drachms of fetid pus. The wall of the abscess cavity was formed by a thin layer of lymph, and microscopically showed an abundant small round celled infiltration.

Dr. J. A. HUTCHISON gave the history of the case (see page 18.)

DR. BELL referred to the sudden bad change spoken of in the report; the patient had a severe chill and became maniacal, he was in a dazed condition and could not or would not speak, there was extreme dilitation of the veins of the neck and ears on both sides which symptom had not been observed before and passed off in forty-eight hours. This dilitation was so marked that Dr. Bell thought that there must have been some obstruction to the venous flow in the sinuses. As the man was semi-unconscious ether was not administered, the wound was reopened and a quantity of sloughy grumous looking material escaped, after which there was marked relief to the symptoms.

DR. ARMSTRONG asked for more full particulars as to the cause of death. If the abscess did not rupture into the ventricles, were there any anatomical or pathological lesions that would account for the sudden termination?

Dr. Finley in reply said that judging from the condition of its walls, the abscess was recent and had enlarged rapidly, which he thought was sufficient to cause death. The sinuses were not obstructed. He referred to a case of abscess in the cerebellum which had died suddenly, no further cause of death being found.

Dr. Shepherd thought that the intense flushing was due more to a disturbance of the sympathetic than to stoppage of the sinuses.

Left-sided Paralysis following a Depressed Fracture of the Skull.—Dr. Hingston showed a young man who had entered the Hotel Dieu Hospital three weeks ago suffering from paralysis of the left side. He gave the history of having been struck on the head by a falling ladder twelve years ago. On recovering after a long period of unconsciousness, the whole of his left side was paralyzed. He, in time, regained the use of his leg, but his face and arm, especially the flexors, have remained paralyzed. On examination a marked depression was seen on the right side of the skull. A large horseshoe-shaped incision was made through the scalp and a crucial incision through the periosteum, a piece of bone about the size of a fifty cent piece was removed, and as the opening did not extend the length of the depression another piece was removed with powerful bone forceps. Two pieces of bone projecting five lines were thus removed, leaving a cup-like depression in the membranes. The wound was carefully closed and on recovery from the chloroform the hand assumed an almost natural position, the face did not look as if it had been paralyzed, and on whistling one could hardly distinguish any difference between the two sides.

Dr. Elder asked if there had been any absorption of brain substance due to the prolonged pressure, he thought that if such had been the case the paralysis would have continued and that it would have been more localized.

Dr. Hingston said that there was some loss of substance; the flexors of the wrist were the muscles most markedly affected, but the whole motor area had been pressed upon. There had been no loss of sensation.

The PRESIDENT thought that it was a most remarkable physiological fact that a man should recover immediately after twelve years loss of function.

Epithelioma of the Hand.—DR. FINLEY exhibited a hand over the back of which was a large fungating ulcer which presented all the characters of a typical epithelioma.

Dr. ARMSTRONG stated that the patient from whom the specimen had been removed was a woman aged 45. An interesting feature of the case was the long duration of the growth, ten years ago a small papule appeared on the back of the hand, this was scratched off and became crusted over and has since been slowly progressing until it presented the large ulcerated surface now seen. The point of interest in the case is whether this was simple and had changed its character or had been epitheliomatous from the beginning. Another interesting fact was that the patient had an epithelioma on the lower lip half an inch from the mucous membrane.

DR. BELL asked if it was possible to make a definite diagnosis between epithelioma and chronic tubercular or lupoid ulceration of the skin. He had worked at the question and thought that it was extremely difficult to distinguish between these two conditions. He had seen one case of multiple epithelioma, but such a condition is very rare.

DR. RODDICK said that it was very important to know whether an ulcer of comparatively simple character will become malignant in later years. In some cases of burns the ulcer may last for years, having all the characters of a simple ulceration, but suddenly take on a malignant action. He did not think that this case was malignant from the beginning. Epithelioma often lasts a very long time without the glands becoming involved.

DR. JOHNSTON called attention, when such a diagnosis is difficult, to the great importance of making inoculation experiments with rabbits, guinea pigs or other animals susceptible to tuberculosis. In lupus the microscopical examination for bacilli is very tedious, for they are very hard to find. The histological elements are very similar in the two conditions.

Perforation of the Bowel in Typhoid Fever.—Dr. Finley exhibited a specimen of a typhoid ulcer with a small round perforation in the centre. There had been a small quantity of fluid in the peritoneum, but no general peritonitis. The spleen was remarkably small, weighing only 95 grammes. The attack had set in suddenly and ran a mild course until the thirteenth day when she was seized with sudden pain in the abdomen with a fall of temperature to 95°F., a weak and feeble pulse, vomiting and abdominal distention. The temperature never rose above normal after its sudden descent, and the patient survived the perforation for nearly four days.

Total Extirpation of the Uterus for Myoma.—Dr. Wm. Gardner exhibited a large myomatous uterus removed by total abdominal extirpation. The patient had been under his care for seven years; two years ago the ovaries had been removed for hemorrhage but without benefit. The operation was difficult on account of the adhesions which in places were so dense that thin slices of the tumour had to be left on the intestinal surfaces. The patient made a good recovery. The case illustrates the fact that removal of the appendages sometimes fails to induce the menopause or to check hemorrhage. This is the third case that Dr. Gardner has operated on by this method and all have been successful, showing that with careful antisepsis it is not the formidable undertaking it was when first proposed by Freund.

Cancer of the Body of the Uterus.—Dr. Gardner exhibited the specimen removed from a patient about 50, menstruation having ceased three years before. As the parts were lax, the uterus movable and not very much enlarged, it was a very favorable case for removal through the vagina. Dr. Gardner thought the chances for non-recurrence were very good.

Three Cases of Abdominal Section.—Dr. Lapthorn Smith read the following report of these cases:—

Case 1.—Mrs. E., aged 29, began to menstruate at 15; never regular, sometimes skipping eight or nine months and sometimes a year; was married at 24. She had her first and only child on the 19th March, 1891. She made a good recovery without any fever, but nursing her baby caused such excruciating pain that she was obliged to wean it about a week after its birth. For the next three or four months she remained perfectly well, but about the middle of July she noticed a pain in her right side, which kept growing steadily worse until one night she was taken so bad that she had to send for Dr. Hutchinson, who attended her for some time. As the patient was having a high fever, night sweats, and very weak, he called me in consultation, when he informed me that he had detected a swelling in the right vaginal fornix. On examination I found this swelling, but by that time it had extended down by the side of the rectum and behind the vagina. It seemed so hard that I thought it would be safer to wait two or three days before opening it, by which time I hoped some soft or pointing spot would be found. That was on a Saturday, and we intended to open and drain on Monday, but on Sunday afternoon she was taken so ill with attacks of fainting and partial unconsciousness that Dr. Hutchinson wisely decided that it was not safe to wait any longer. He sent for me to come at once, but as I was not in town Dr. Gardner was called, and made an opening in the right vaginal vault. The pus was under great tension, for it spurted out with much force and was very fœtid. A drainage-tube was inserted and kept in until the last week in August, when she went to the country, where she remained till the 1st of October. All the time she was there the discharge continued very profuse and bad smelling, and the pain was so great that she partly lost the use of her right leg. On the 30th of April, 1892, she walked into my office and begged that I would, in her own words, "either kill or cure her." She stated that she soiled as many as two dozen napkins a day, that the odour from the discharge made herself and her husband sick, and that she was growing weaker and weaker every day. On examination I felt a hard cicatricial ring where the opening had been made and above that a tensely fluctuating mass filling up the right two-thirds of the pelvis and pushing the uterus over to the left. By the bimanual this mass was found to be slightly movable in the pelvis, but very intimately adherent to the uterus. She informed me that the discharge was constant, but at times there were profuse gushes of matter. I explained the serious nature of the operation to her, but she urged me to undertake it at once, so I admitted her to hospital, and on the 7th May, with the assistance of Drs. Perrigo, Lockhart, Spendlove and Goltman, I performed one of the most difficult operations that either my colleagues or I had ever seen. The omentum was adherent to the tumour and the tumour was so adherent to the uterus, to the wall of the pelvis, and to the broad ligament, that after half an hour's digging at the adhesions without making much impression on them, both Dr. Perrigo and I had almost come to the conclusion that it was in the broad ligament, and that there was no possibility of removing it. A coil of small intestine was separated from the top of the pus sac, to which there was an adhesion about two inches long and which bled profusely, necessitating the application of the thermo-cautery to the bleeding surface. At this point the bowel was considerably thickened. At last I was able to introduce the tip of my finger into a crevice between the pus sac and the floor of the pelvis, and after half an hour's more dissecting with the finger I succeeded in cutting through the firm adhesions to the cicatricial ring around the opening leading to the vagina. When we reached the wall of the pelvis I had to exercise great caution lest I should tear through the large veins, but with Dr. Perrigo's help I succeeded in freeing all the tumour except the part attached to the broad ligament. Although we spent another quarter of an hour on this, it was found absolutely impossible to separate it, so I proceeded to tie the broad ligament near the uterus and cut it off. During the manipulations two distinct sacs were ruptured; the first allowed about two ounces of clear serum to escape, the second about four ounces of dirty pus, both of which were quickly sponged away. The broad ligament was tied with chain sutures and a part removed with the abscess sac. The abdomen was then flushed out with hot water, the omentum drawn down, a long drainage-tube passed into the bottom of Douglas' sac, and the incision closed with silkworm gut. The patient has made an uninterrupted recovery, although for a few days at the end of the first week the distension of the abdomen caused me great anxiety. It caused very severe torminæ, which were hardly relieved by fomentations, turpentine internally and externally, salines, assafœtidæ by the mouth, and by enema. I consulted the work of that experienced old operator, Skene, and found that he strongly recommended a prescription of Keith's in such cases—namely, an enema of eight grains of quinine. This acted almost at once, and in a few hours tremendous quantities of flatus were passed and the patient experienced such relief that she begged to have the quinine injections continued long after the abdomen had become quite flat. The temperature never rose above 99°, and then only for one night, when it reached 100½°. Most of the time it has been below 98°. The drainage tube was removed on the nineteenth day, but it was cut off from time to time as it was pushed up from below by the granulations in its track. During the first week there was a good deal of discharge from it, but it has nearly ceased now, the eighteenth day. The patient is on full diet and is looking and feeling remarkably well. The day before the operation she soiled twenty-four napkins, but did not loose a drop by the vagina since.

This case is of interest, because it throws some light on the very mooted question whether there is such a disease as pelvic cellulitis, or whether all so called cases of cellulitis are not really pyo salpinx. I have had abundant proof to convince me that there is such a disease as cellulitis, but I admit that it is much rarer than is generally supposed. It occurs mostly after a confinement accompanied by a tear of the cervix into the broad ligament and subsequent infection of the cellular tissue contained therein and separating the pelvic floor from the vaginal roof. The majority of cases of what has in the past been called cellulitis were really cases of pelvic peritonitis due to a leaking pus tube. In the light of subsequent events the course of the disease in this case seems to me quite clear. First a pyo-salpinx with slight oozing into the peritoneum and conservative local peritonitis glueing up the fimbriated end of the tube. Then the pus accumulated in the tube, distending it until it was ready to burst, followed by conservative adhesions to the pelvic floor, just over the vaginal roof. Then thinning of the former and bursting of the pus tube into the cellular tissue immediately under the peritoneum, forming the floor of Douglas. Then collection of pus in, and infection of the cellular tissue, from which it was partly removed by the incision and drainage. The pus sac being there all the time, there was a continual filling up and emptying it, accompanied by fever and wasting, which could only be stopped by the total removal of the abscess cavity. The first sac which broke during the operation was doubtless a cyst of the ovary, and the second the pus tube very much distended, as it was fully as large as an orange. At the first consultation the question of abdominal section was raised, but at that time the symptoms pointed so clearly to cellulitis that there was no decided evidence to show that there was anything wrong above the peritoneum. This case, however, will do much towards making me consider all pelvic inflammations as intra-peritoneal until I have proof to the contrary, which can only be obtained by exploratory incision of the abdomen. There is no doubt the removal of this pus tube by abdominal section would have been a comparatively easy matter if it had been performed when I first saw her.

Case 2.—Miss X. consulted me at the Montreal Dispensary in Feb. 1892, for a pain in her right side. She had been delivered of a child two months before, and this had been followed by a high temperature lasting for a week or more. On examination, I found a slight laceration of the cervix on the left side, which had been deep enough to extend into the vagina, although it had healed up itself, leaving a cicatrix in the vagina, but very little eversion of the lips of the womb. I could not make out anything on the right side to explain the pain. After treating her for a few weeks at the dispensary I took her into the Women's Hospital and treated her with rest, counter-irritation, etc., until the end of my term on the 1st of April. Dr. Cameron then took her over and continued the same treatment with considerable benefit, until the 18th May, when he handed her over to me, and my attention was called to a round hard mass very closely connected with the uterus on the right side, but the one moving slightly without the other. After consultation with the staff, abdominal section was decided upon, and on the 24th May, assisted by Drs. McConnell, Reddy and Springle, and in the presence of Drs. Hingston, Perrigo and Armstrong, and several visiting physicians, I performed the operation without much difficulty, beyond the separation of the adhesion of the omentum to the tumour and the adhesions of the tumour to the back of the broad ligament and to the floor of the pelvis. I was fortunately able to deliver it without rupturing it, for it was found to be an ovarian abscess, the pus from which is exceedingly virulent. Just before separating it, after having tied the pedicle, a few drops of pus exuded, which were quickly caught on sponges which were discarded. The peritoneum was cleaned and the incision closed with silkworm gut; no drainage-tube was inserted. No opiates were given, and no food or drink allowed for twenty-four hours. At the end of that time the administration of Rochelle salts every four hours was begun until a thorough passage was obtained after the third dose. The patient was allowed to turn freely in her bed, and is doing very well, the highest temperature recorded so far being 99° on the third night.

An interesting point in this case is the advisability of aspirating these ovarian abscesses before manipulating them. At a meeting of the Gynæcological Society of New York, at which I was recently present, Coe, Boldt and Krug all urged the importance of this preliminary step, several cases being referred to having terminated by peritonitis owing to the peritoneum having been infected by this very virulent pus. I think, however, by surrounding it with a flat sponge, so that, should it burst, the pus will not touch the intestine, the danger can equally well be averted. The second point of interest was that I intended to perform the operation with the head lowered and the feet raised, but was obliged to raise her to the horizontal position owing to her colour turning dark; my portable table was used, which easily enabled the position to be changed in a moment. The third point was that the tumour seemed much larger a few days before the operation than it actually proved to be. The house surgeon, who was watching it from day to day, perceived a considerable reduction in its size after the free purgation which we always give for a day or two before the operation. I have no doubt that pelvic tumours generally do.

Case 3.—Annie —, aged 31, cook, was operated on three years ago by Dr. Perrigo for two ovarian cysts, from which she made a good though somewhat tedious recovery. I was called to see her on the night of the 18th May. She seemed to be in great pain, and had vomited some corned beef and cabbage which was thought to have disagreed with her. On closer inquiry, however, I found that her bowels had not been open for ten days, but this was a regular thing with her, and she attributed no importance to it. The temperature and pulse were normal and the abdomen rather full. On inspecting the vomiting matter closely I found that it consisted of the above-mentioned food and a considerable quantity of bile, but there was no fæcal odour to it. As I have two or three cases a week at the Montreal Dispensary alone who tell me that their bowels are only moved once a week or ten days, I thought that this was a case of slight intestinal obstruction due to fæcal accumulation, which I generally succeed in curing by means of mild laxatives and intestinal tonics, such as rhubarb and soda, and nux vomica. In the meantime I ordered a tablespoonful of castor oil by the mouth every four hours, and a copious enema of soap suds by the rectum, to be followed by a Dover powder to allay the pain. Next morning I perceived that her skin had the dirty look common to patients with chronic constipation. I learned that both doses of oil had been vomited, and that the enema had not been given for various reasons. The pulse and temperature were still normal, but she was in great pain. The abdomen was also slightly distended. I suggested that she should go to the hospital, as it was difficult to have orders carried out, but she begged me not to send her. I ordered two cathartic pills and an enema of soap-suds with a little turpentine in it, and also turpentine stupes to the abdomen. On calling that evening I found her much better, her bowels having been moved and the distension relieved. She had vomited very little during the day. I ordered her milk and lime-water, and as a beverage small doses of citrate of magnesia, which she found settled her stomach. Next morning I found her so much better that I thought the danger was over, there being little or no pain in the abdomen. I was sent for again, however, that night, and found her in great pain and looking very ill. I at once ordered her to the hospital, and directed the nurse to give her copious enemas of linseed oil. I also arranged for a consultation with the staff. When they arrived, however, at 12 o'clock on the 21st of May she had had two large fæcal movements; she was not much distended, and was feeling very comfortable, so that no consultation was held. I, however, introduced my finger into the rectum and found only a little soft fæces. I saw her again at 5 P.M. of the 22nd, and her pulse and temperature being normal, and there being no vomiting, and as she was complaining bitterly about being starved, I allowed her a cup of tea and a little bread and butter. At my visit on the 23rd I was shocked to find her dying, her pulse being almost imperceptible and the nervous system in a state of profound shock. Four of the staff happening to be in the house a consultation was held, the majority thinking that perforation had taken place, and that it was my duty to open the abdomen and if this was found, to close the hole and wash out the peritoneum. I was not anxious to add another to my death rate of two in seventeen, which was quite high enough, as I was perfectly certain would be the case if I operated on a patient so near death; but, on the other hand, we have no right to shirk operations for fear of spoiling our statistics, and I therefore consented. The gravity of the situation was explained to the patient, who readily consented, and she was quickly placed under ether. The abdomen was opened and a few minutes was spent in turning out the small intestine, which was distended and dark purple, almost slate-coloured. By picking up the ascending colon, which was collapsed, the cæcum and appendix were found; the latter, being adherent, was tied and cut off. The small intestine was then followed back from the cæcum, and was collapsed and healthy until we came to the back of the uterus, where the obstruction was found. Above that the small intestine was two or three inches in diameter; below that it was collapsed. The intestine was so adherent that my finger nail made no impression on it, and I was obliged to cut through a sort of cicatricial union between it and the uterus with the point of the director, involving a half hour's hard work In spite of the greatest care two small tears were made in the intestine, which were closed with Lembert sutures. The bowels, which had been kept wrapped up in towels wrung out of hot, boiled water occasionally changed, were returned to the abdomen, which was then flushed out with hot water. But just as the last sutures were being placed the patient ceased to breathe, the heart continuing long enough for her to become cyanosed.

The lesson I have learned from this case is this: not to be misled by any apparent cessation of the symptoms in a case of obstruction of the bowels. The movements which were obtained before and after her entrance to the hospital were merely the contents of the large intestine, which, at the ante-mortem autopsy, were found collapsed. As has been pointed out many times in this room, the cessation of pain in obstruction of the bowels is a bad sign, for it generally means that they have gone beyond feeling and beyond help. It is even doubtful whether it was not already too late when I first saw her, but, at any rate, I should have taken her into hospital and been prepared to operate the very next day. An exploratory incision would not have added at all to the gravity of the situation, while without it it was impossible to say in what condition the bowels were. Another lesson I have learned from that case is the necessity of putting the future career of the intestines into the balance when weighing the arguments for and against abdominal operations. This had been a very simple operation performed by a very successful operator, and yet the intestine was not only so firmly adherent to the fundus uteri, but there were also dense bands of adhesions between neighbouring coils. This case will make me more than ever careful in every case of abdominal section in the future, as in the past, to keep the bowels on the move for the first twenty-four hours. Obstinate constipation is a frequent sequence of abdominal operations.

Selections.

A Hawthorn Twig in a Man's Ear for Thirty Years.—Dr. A. O. Stimpson, of Thompson, Pa., reports the following interesting case:—

John Nickels, aged 74 years, came from Parkham, England, to this country some eighteen years ago, and gives the following history of himself: "In the month of January, 1844, while forcing his way through a dense hawthorn hedge the end of a hawthorn twig entered his ear and broke off, causing him considerable pain at the time. After he had returned home it had bled quite freely, but on examination nothing could be discovered in the ear. In the course of time, however, he became quite deaf, the ear commenced to pain him considerably, attended more or less with a purulent and fetid discharge. Shortly previous to this, he had been to several reputable surgeons and submitted to a thorough examination, but they claimed that no foreign object could be found in the labyrinth of the organ. When the amount of discharge from the ear became diminished in quantity the pain and discomfort became sensibly aggravated, and gradually the sense of hearing on that side became seriously impaired. His wife says that at times he has acted as if he were partially insane, and she noticed that he felt worse when the discharge became diminished in quantity. The pain has continued to be very severe at times, especially after any extra amount of labor or exertion in his daily occupation as a farmer and agriculturist, and, as he describes it, 'crackling sounds were heard in his head.'" With the exception of this infirmity and the resulting semi-deafness, his general health has been very good. On Monday, the 16th day of January, 1879, he came to my office and requested me to examine his ear and see if nothing could be done for his relief, claiming all the while that he felt as if there were something in his ear. After introducing a silver bivalve speculum in his ear, with the aid of a strong artificial light I discovered a dark hard looking substance projecting through the internal meatus. With a pair of long narrow-bladed forceps I succeeded in getting hold of the object, and by careful manipulation finally extracted it. There was very little bleeding attending the operation, but a profuse discharge of very offensive purulent matter. The substance extracted was the budded end of a twig a half inch in diameter and one and a half inches long by actual measurement, which was somewhat flattened on two sides. It consisted of tough, hard, woody fibre with the adherent bark. Mr. Nickels took the substance home with him and unfortunately lost it, so that afterwards I could not obtain it to exhibit as a specimen. He persistently claimed that the substance entered the right ear, while it certainly was extracted from the left ear. I am confident, however, that he certainly must be mistaken in regard to it as the broken end of the twig presented first. It seems almost incredible that this broken piece of a hawthorn twig could have remained in this man's head for over thirty years without giving rise to more serious symptoms ; but both his wife and himself at the time persistently attest to the truth of the aforesaid statement.—*Med. and Surg. Reporter.*

A Blow Upon the Ear followed by Death in a Week.—Heiman (*Arch of Otol.*, xx, 1) reports the following interesting case :—A soldier, aged twenty-one, had been struck on the left side of his face and ear, which caused severe vertigo. The blow caused severe hemorrhage from the ear, which, however, came on forty hours after the blow. The ear had previously at times discharged pus. The patient died delirious on the seventh day after the injury. The autopsy showed pachymeningitis interna purulenta diffusa, numerous small subarachnoid hemorrhages, hyperæmia of the substance of the brain and its membranes, and circumscribed basilar meningitis. A decolorized thrombus was found in the superior longitudinal sinus, and dark-red thrombi were found in the transverse sinus and internal jugular vein. Three small openings were found on the inner surface of the pyramid which led to the tympanum. The upper surface of the mastoid was found sclerosed, and here there were several small softened areas containing pus and particles of bone. The tympanum and mastoid process were filled with thickened pus. In the mastoid were several large cavities containing pus. Pseudomembranous bands were found in the middle ear, and the mucous membrane was ulcerated. There was a small perforation in the anterior part of the drum-head.—*N. Y. Med. Journal.*

Iodoform Dermatitis.—A well marked case of this affection is recorded by Legiehn. The patient was a man suffering from purulent catarrh of the right middle ear, for which syringing with warm water and insufflations of iodoform were prescribed. The discharge, which had lasted five weeks, ceased in three days, and the hearing power considerably improved. In order to be on the safe side, the patient continued to use the iodoform, until one evening he experienced immediately after an insufflation a feeling of warmth in the ear, and in the morning found to his astonishment his face swollen. The right ear and right half of the face and neck were reddened, much swollen, and œdematous; and the cheek was covered with eczematous bullæ. There was moderate itching and marked feeling of heat complained of in the inflamed parts; and there being a possibility that the iodoform had something to do with it, the powder was discontinued, and ichthyol ointment used, under which the eczema rapidly healed. Two weeks after, the patient noticed a return of the otorrhœa, and although convinced that the insufflation of iodoform was the cause of the previous swelling of the face, he again employed it, hoping to receive marked improvement of the discharge. About an hour after, he perceived a hot sensation in the outer ear; and in the course of the night, the ear and face had assumed the same appearance as before. The former treatment sufficed to make it disappear as rapidly as before. Legiehn thinks there cannot be the least doubt that the dermatitis depended upon the iodoform, as on the first examination there was nothing in the ear passage that could possibly cause it, and its recurrence on the second occasion confirmed this fully. [*Practitioner*, xxxvii. p. 271.] (*Therap. Monatshefte*, No. 4, 1892.)

Polyuria and Sciatica.—At a recent meeting of the Medical Society of the Paris Hospitals, Drs. Debove and

Rémond announced certain phenomena which they had observed in their cases of sciatica. In the first case they found that polyuria was present, the amount of urine passed daily, varying from 2 to 4.25 litres. Inquiry elicited the fact that the same thing had occurred three years before when the patient had suffered from an attack of sciatica. This led to further investigation and three other sciatic patients were found in whom a like condition was present. In one of these cases azoturia was found in addition to the polyuria. Dr. Mathieu, having heard of these facts from his confrères, was led to make investigations on his own account and he also found polyuria present in two patients suffering from sciatica. Dr. Desnos thought that he had found this condition present in other painful affections, as for example in hepatic colic.—W. F. R in *Journal of Nervous and Mental Disease.*

Most Favorable Time for Conception.—Pozzi (*Centralblatt für Gynakol*) reports fresh studies of this familiar subject. His observations were conducted with great care upon the newly married sailors' wives (in whom the time of fruitful coitus was known), and in cases of artificial impregnations. Twenty-seven cases were analyzed, from which it was found that conception is most likely to occur just after the cessation of the menstrual flow. This is also the most favorable time for successful artificial impregnation. The writer has established the fact that spermatozoa deposited in the vaginal fornix remained active for seventeen days ; hence fruitful coitus may occur before menstruation.

The Uses of Bromide of Strontium.—Professor Germain Sée says of pure bromide of strontium (Paraf-Javal) that " it never produces any disastrous effect on the stomach even in large doses. It may be taken in doses of four grammes (sixty-two grains) at each of the three daily meals. Out of thirty-two patients suffering from gastric dilatation, several have been improved, and some altogether cured. I believe that the bromide of strontium (Paraf-Javal) will advantageously take the place of bromide of potassium, and especially the polybromides, in the treatment of epilepsy."—*Académie de Médecine*, Oct. 1891.

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THE CORONER'S COURT AND ITS REFORM.

Mr. Archambault's recommendation to the Government regarding the coronership deserves earnest consideration, and has, in some respects, our hearty approval. It is our opinion that the coroner should have had a legal training, for his functions are much more judicial than medical. As regards the recommendation for the appointment of two medical experts to perform autopsies, we are of opinion that one would suffice, as the salary divided between two would not be sufficient to attract good men. One good man trained in all modern pathological methods, and whose opinion would have the respect and confidence of the profession, is all that is needed. It does not matter whether he is French or English, provided he is a competent man. The appointment of a political hack to this position will not satisfy the medical profession, which has long ago learnt to receive with suspicion the verdicts of coroner's juries founded on erroneous pathological evidence. In one of our medical museums are several specimens showing death from violence where the verdict has been death from natural causes, serous apoplexy, pneumonia, etc. It is a disgrace to our 19th century science that such a state of affairs should exist, and the sooner an improvement takes place the better. The profession as represented by the Montreal Medico Chirurgical Society has done its duty, and it now remains for the Government to perform its part.

OPERATION FEES.

The profession and laity in Chicago have recently been much disturbed about the question of fees for operations. It appears that a rich man's child took diphtheria and a specialist had to be called in by the family doctor to perform intubation. The child recovered and the specialist sent in a bill for $2,000, with an explanatory letter stating that the skill and experience necessary to perform this formidable (?) operation had been gained only by years of most arduous work, and at the risk of health and life itself. The rich man thought the bill extortionate, and, after consulting with some medical friends, sent a cheque for $400, which was declined. It was finally decided to submit the case to the arbitration of three doctors—one to represent the patient, one the specialist, and a third. They decided that the charge was a reasonable and proper one, and the rich man immediately sent his cheque for $2,000 to the specialist. The feeling of the community, however, was that the charge was excessive, and that in future not only was operation to be dreaded but the bill that came after. Now, it is doubtless true that operations are performed most frequently on the poor, and that no adequate recompense comes to the operator, but some limit ought to be placed on the amount an operation is worth, and the rich man should pay to the fullest amount ; but there should be a limit, and the amount should be lessened according to the means of the patient. We take it that few even of the most difficult operations of modern surgery, such as resection of intestines or stomach, excision of spleen, etc., are worth $2,000, at least few of the greatest operators in the world get this amount; some get it, and even more, from the wealthy, but it is freely given as an honorarium and not as a fee, nor is it demanded by the operator.

We fail to see that such an ordinary proceeding as *intubation*, which can be done by any medical man of ordinary intelligence and skill in the use of instruments, should be worth $2,000. We question whether it can be classed as an operation at all any more than catheterization of the urethra for stricture, a proceeding often vastly more difficult. Tracheotomy, on the other hand, is often a very difficult operation, requiring coolness, skill and surgical experience, more so than many larger operations, but intubation is quite another matter. Specialists are apt to exaggerate the importance of their speciality and to think that the operations they perform require such skill and intellect as are required in no other branch of the profession.

PUERPERAL INFECTION.

Fochier, of Lyons, observed that in cases of severe puerperal infection, when multiple abscesses formed, the patients recovered more frequently than when such was not the case. This led him to endeavor to produce such abscesses artificially, hoping by those means to favorably influence the course of the disease. He experimented with various substances and finally employed spirits of turpentine. This he injects into the subcutaneous tissue preferably about the upper part of the extremities. The irritation thus produced seems to offer a suitable nidus for the pathogenic microbes and they concentrate their action at these points and so relieve the general system. In a few days the abscesses can be opened, but Fochier advises not to open them too soon. He says:—"Regarding the mode of action, it is probable that all about the purulent centre soluble products are secreted which vaccinate the system. This appears to me so true that I hesitate to open an abscess, because, the pus evacuated, the beneficial properties disappear; and I advise, before opening the collection of pus, to make another in the vicinity." The actual injection is not more painful than one of morphia, but after a few hours the pain becomes severe. If the injection is made deeply beneath the tissues the swelling is not apparent for several days. About the third day the redness of the skin becomes pronounced and then sometimes the abscess runs an acute and sometimes a chronic course. The turpentine does not appear to be absorbed since the odor is perceptible at the end of a fortnight, although the separate drops cannot be distinguished amidst the pus.

An objection may be made to provoking suppuration in an organism already too liable to suppurate. To this Fochier answers: "The day on which a means of repressing this tendency is brought forward I will no longer provoke it."

Again, it may be said that this method is not new. It is only the old method of revulsion or derivation, and the vesicant, the cautery and the seton do, at least in part, what is done by the injections of turpentine. To this it may be replied that the injections give better results.

Following this communication, which was made to the *Société Obstetricale de France* in April last, three cases of pneumonia have been reported treated by this method. These cases did not resolve and threatened to suppurate, but under this treatment they all recovered. One was reported by Lepine, of Lyons, the second by Dieulafoy, of Paris, and the third by L. Bard, of Lyons. It was remarked that as the inflammation at the seat of the injections increased, that in the lung decreased. The injection consisted of 1 c.c. of spts. of turpentine injected with a Pravaz syringe.

TORONTO UNIVERSITY AND CLINICAL TEACHING.

As we go to press, the "*Report of the Standing Committee*" (of the University of Toronto) "*in the Faculty of Medicine on the subject of Hospital facilities*" reaches us. It is most interesting reading, and shows that at last Toronto University has awakened to the fact that clinical teaching in the wards (not the theatre) of a hospital is a most important part of a medical education. The report leads us to infer that ward-work is not a feature of the instruction given at the Toronto General Hospital, that the students have not the advantages they possess in English Hospitals in the way of obtaining clinical clerkships and dresserships, and that thus they do not come into immediate contact with patients. Numerous recommendations are made for reform, and a system of bedside clinics after the manner of those given in the London hospitals is advocated. A reduction of the staff is also recommended,—two surgical and two medical chiefs, with assistants—one pair of chiefs to belong to the University of Toronto, and the other to Trinity Medical School. They have gone to the United States, Great Britain, and the

Continent of Europe for information, but are apparently unaware that there is a hospital much nearer home where, ever since its foundation in 1820, clinical teaching in medicine and surgery has been carried on in the most efficient manner. The Montreal General Hospital wards have always been thrown open to medical students, and bedside teaching has always been a great part of the work of the attending staff. Two physicians and two surgeons, with three assistant physicians and three assistant surgeons, besides specialists, are daily in attendance, and we venture to say that in no hospital on the American continent have students had such privileges. Clinical clerkships and dresserships are easily obtained, and every student connected with McGill University is expected to have acted as a clinical clerk and dresser in the medical and surgical wards. Reports of cases are always commented on by the attending physician or surgeon, and the students are daily examined at the bedside in rotation on the cases before them; so that each student has the privilege of coming in direct contact with patients. These facts seem to have been either unknown to the above-mentioned committee or ignored by them. In the near future, the facilities for clinical teaching will be much increased by the opening of the Royal Victoria Hospital, with 250 beds. This hospital has been specially arranged for clinical teaching, and will afford many openings for medical students and recent graduates. We believe it is the intention of the governors to place the medical charge in the hands of the Faculty of Medicine of McGill University.

—Theodore Meynert, the distinguished alienist and neurologist, died recently at Vienna, at the age of fifty-nine years.

—Sir Wm. Aitken, M.D., for many years Prof. of Medicine at Netley Army Medical School and author of the well known work on "Practice of Medicine," died recently.

—We regret to have to announce the death of Dr. Henry F. Formad, of Philadelphia. Dr. Formad was well known as a pathologist, and for some time acted as coroner's physician of Philadelphia. He was a Russian by birth and only 45 years of age at the time of his death.

Medical Items.

—H. Stillmark in the *St. Petersburg Med. Wochenschrift* strongly recommends vinum ipecac for weak pains during labor. He recommends 10 to 15 drops every hour for two or three doses. He reports a case where the results of the administration of this drug were most satisfactory.

A SENSITIVE TEST FOR ALBUMEN.—Take corrosive sublimate 8; tartaric acid 4; saccharose 20; distilled water 200. Acidulate the urine with a little strong acetic acid, filter if necessary, and add gently with a pipette an equal quantity of the reagent in such a manner that the two liquids will not be mixed. If albumen is present a white ring is formed at the junction of the liquids.—*La Médicine Moderne.*

—Burlureaux recommends the treatment of syphilis by means of subcutaneous injections of sublimate dissolved in oil of the strength of 1 in 2500. He recommends it for cases where the stomach will not tolerate mercury or where the rapid introduction of the drug is advisable. The injection is painful, and as the dose is large (5 — 20 drachms) the solution must be introduced slowly at about the rate of 5 drachms per hour.—*Abstract from the Revue Thérapeutique Medico-Chirurgicale.*

—Beclère in the *Revue de Thérapeutique Medico-Chirurgicale* reports two cases of gonorrhœal rheumatism in children. Both were girls, aged 5½ years and 20 months, and both suffered from purulent vaginitis with urethritis. The joint affections speedily recovered under treatment by immobilization and pressure by means of cotton pads. He is of the opinion that arthritis in children is more frequently due to this cause than is ordinarily supposed, and may even follow ophthalmia neonatorum.

—In France there is a cloth made from denitrated pyroxylin, which is dissolved in a suitable liquid and then manipulated so as to form threads which are woven into this tissue called *Pilou*. Several people wearing garments made from this and inadvertently sitting near an open fire, have had the unpleasant experience of their garments going off with a flash like gun-cotton. Fortunately no case of severe burn has been reported as a result of wearing these inflammable garments.—*Repertoire de Pharmacie.*

—Dr. Ortiz, of Lorre, excised the tongue of a man aged 50 years, who was suffering from an ulcerated tumor of that organ. There was no history of either syphilis or tubercle. Antisyphilitic treatment was tried, as the tumor although resembling an epithelioma presented some points of difference, but without success. Microscopical examination showed the disease to be *trichinosis* of the tongue, the cicatricial tissue about the cysts having taken on ulcerative action —*Lyon Médical—Revue des Journaux.*

—Janon, of Nantes, reports a case of resection and suture of the urethra in a man aged 67 who fell astraddle of some resisting body. A perineal abscess formed followed by a fistula. A sound could not be passed into the bladder by way of the urethra. The injured part of the urethra with the surrounding cicatricial tissue was isolated and excised. The cut ends were sutured with catgut and a sound left in the urethra. Union by first intention was obtained. The part removed measured 10 mm. above and 18 mm. below. He thinks this method useful also for non-dilatable strictures.

—M. J. Ahern, of Quebec, reports in *L'Union Médicale du Canada* a case of amputation at the hip joint by means of Wyeth's method of transfixing, with steel pins, the upper part of the thigh and applying an elastic tourniquet above them. The case was one of osteo-sarcoma of the lower part of the femur and the tumor when separated from the limb weighed 25 pounds. The sutures were removed on the 8th day, union being by first intention. He prefers this method to that of Furneaux Jordan, which he employed with success in a similar case, as very little blood is lost.

—Yver reports a case of resection of the two first pieces of the sternum in a young man suffering from tubercular osteitis. He had already incised two collections of pus, one in the right hand and the other in the left foot. Some time after an abscess developed over the upper part of the sternum. This, on being opened, showed a perforation of the sternum with a projection of the first two pieces of this bone, and behind it a cavity filled with pus. Four centimeters of the upper part of the bone were removed, the cavity well cleaned out and stuffed with iodoform gauze. The cavity healed in about three months, during which time a new abscess in the gluteal region was opened. The patient had remained well since.

—H. Huchard (*Detroit Medical Age*) in an article on the treatment of the influenzal pneumonias strongly recommends the use of digitalis. He employs the *crystallized digitalin* of Petit under the form of solution 1: 1000. This preparation, he says, is the most easily tolerated by patients, it has an invariable and certain action, and the dosage is easy. He prescribes *one dose only a day*, of thirty, forty, and even fifty drops of this millesimal solution. Along with this he enjoins an exclusive milk diet. To combat adynamia, should it be profound, injections of ether or camphorated oil may be used. He says:—"These latter injections are so good in threatened collapse that I must give you the formula which I employ: Olei oliv. (sterilized), 10 parts; camphor, 1 part. M. Inject a hypodermatic syringe full of this solution into the arm or hip three or four times a day. These injections are not painful if you inject them deeply." Quinine is often useful and the writer gives it in the form of bromhydrate, which contains more active substance than the sulphate. Fifteen to twenty grains is given every morning divided into three doses with half an hour between each. This treatment is followed for three or four days only. In desperate cases strychnia is useful. Strychniæ sulphatis, 1 centigramme; aq. destillat, 10 grammes. M. Sig., 10 or 12 drops subcutaneously two to four times a day. This, with tonics, is an outline of his treatment.

SECONDARY SUTURE OF THE RADIAL NERVE IN THE AXILLA AND AT A DISTANCE.—Ehrmann, of Mulhouse, sutured the radial nerve in the axilla; it had been divided by a knife. Motor paralysis was complete and partial sensation remained. The nerve was exposed by an incision at the posterior margin of the axilla, one week after the accident. The cut ends of the nerve terminated in a bulb of cicatricial tissue and they were both attached to the vein. The ends were disengaged but could not be approximated nearer than 5 c. (2 inches). Ehrmann sutured them with catgut at this distance. During the 10th week sensation reappeared. The muscular paralysis persisted until the end of the 18th month. During the 19th month the movements returned almost completely. There still remains a little atrophy.—*Gazette des Hopitaux.*

ERRATUM.

In Vol. XX, page 907, fourth line, for "days," read "hours."

THE

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Original Communications.

ON A FATAL CASE OF ACUTE PERITONITIS

DUE TO ESCAPE OF THE CONTENTS OF THE GALL-BLADDER AND PARTIAL EXTRUSION OF A MEDIUM-SIZED GALLSTONE.

By JAMES BELL, M.D.,
Surgeon to the Montreal General Hospital; Associate Professor of Clinical Surgery, McGill University.

On the 22nd instant I was called to see, in consultation with Dr. F. E. Thompson, a young woman who was said to be dying. On my arrival I found that she had just expired. Enquiry elicited the following history. Mary D., æt. 27, masseuse, a native of France, was admitted to the Montreal General Hospital on the 14th of July, under care of Dr. Wilkins, suffering from acute peritonitis. She had been taken suddenly ill three days before admission with severe pain in the right hypochondrium. The symptoms were most marked, throughout, in the region of the liver, and careful examination of the cæcum and pelvic organs failed to discover anything abnormal. The patient stated that she had been subject to attacks of severe pain in the right hypochondrium from childhood. She had had, on an average, three or four such attacks every year, and each attack lasted usually three or four days. The last one prior to the present illness was about the 1st of May last. For a month past she had suffered from digestive disturbances. On the 19th of July she was removed from the hospital, contrary to advice, by her husband, who was a *masseur* and a "water-cure" crank. He proceeded with wet pack and massage treatment until the morning of the 22nd, when he found that she was dying, and Dr. Thompson and I were hastily summoned. Under the circumstances the Coroner was notified, and ordered an inquest. At the autopsy was found a general acute peritonitis, of greatest intensity around the liver and extending through the diaphragm to the pleura on the right side. On the under surface of the liver were thick layers of lymph. The gall-bladder was contracted and contained no fluid. Near its apex a gall-stone, as large as an ordinary marble, lay half extruded through an opening in its walls. This, which was clearly the origin of the peritonitis, had probably been brought about by localized gangrene or ulceration, from pressure, and an inflammatory condition of the lining membrane of the gall-bladder. (Experiments upon animals and cases of rupture of the gall-bladder in health have shown that normal bile has little, if any, tendency to set up peritonitis.) The history of this case appeals to the profession in a most striking manner for a more careful and thoughtful consideration of two common and generally recognized pathological conditions, viz.: gall-stones and acute peritonitis. Hundreds of men and women (more women than men) are going through life, on the advice of their physicians, suffering more or less from symptoms which can be diagnosed as due to the existence of gall-stones. They are, for the most part, taught to believe that surgical interference for the relief of such conditions is fraught with great danger, and that while life is tolerable operation is not to be recommended. They are advised also (tacitly at least) that, while they may suffer severely at times, or perhaps be more or less incapacitated all the time, the presence of gall-stones does not directly menace life. The foregoing case illustrates one mode in which gall-stones may be the direct cause of death, and probably much more frequently than we have hitherto suspected. Many fatal cases of acute peritonitis, which in the past have been styled "idiopathic," etc., or attributed to "cold," and in which the cavity of the abdomen has not been examined, either before or after death, have probably been due to ulceration or other changes in the gall-bladder or cystic duct, in connection with gall-stones. A case which made a deep impression upon my mind many years ago was that of a healthy man, aged about 50 years, who was seized with biliary colic for the third or fourth time in as many years. The symptoms were relieved by morphia, but the attack did not pass off, and at the end of twenty-four hours the pain ceased, but the patient fell into a collapsed condition and died in eight or ten hours, with symptoms of perforative peritonitis. The abdomen was not opened. That gall-stones frequently find their way into the intestinal tract by other routes than through the bile ducts is attested by the numerous reported cases of intestinal obstruction due to gall-stones. (Mr. A. W. Mayo-Robson, in the *British Medical Journal*, July 16th, 1892, states that there are now over 100 on record.) Such a case came under my own observation in May, 1890. A woman, aged 68, who had been in poor health for many years, suffering from obscure abdominal pains and digestive disturbances, suffered for a couple of weeks from anorexia and a subfebrile temperature, when she suddenly began to vomit. The vomited matter soon became stercoraceous and all the symptoms of complete obstruction developed. Operation was recommended, but neither the patient nor her friends would listen to the proposal. After several days, during which enemata were freely employed, the obstruction was overcome, and a large gall-stone, measuring a little more than an inch and a quarter in diameter, came away with the evacuation. This was undoubtedly the cause of the obstruction, the site of which we could not determine, although we suspected the ileo-cæcal valve. It is obviously impossible that a gall-stone of this size should find its way into the intestines by the natural channels, and that such stones do find their way into the bowel, instead of escaping into the peritonial cavity, would seem to be entirely accidental. It follows, then, that in every case of gall-stone, diagnosed or strongly suspected, the question of surgical treatment should be fully considered. It goes without saying, of course, that not every case should be subjected to operation, for the reason that it frequently happens that spontaneous cure results from the passage of one or more gall-stones through the biliary ducts and the intestinal canal. In the case here reported cholecystotomy, at any time prior to the onset of the peritonitis, should have saved this young woman's life and restored her to perfect health. Even after the peritonitis had become established a timely cholecystectomy would have been quite as promising an operation as the removal of the appendix in a similar case of appendicitis. As a matter of fact, surgical treatment of the gall-bladder and cystic-duct has been extremely satisfactory in its results. It is only in the few exceptional cases, in which the common duct is involved, that operation is difficult and dangerous. Of 278 cases of surgical interference with the gall-bladder on account of gall-stones or distension from obstruction, 36 (13 per cent.) were fatal. In more than half of these cases stones were found in some part of the biliary passages. (Quoted from Dr. Ivanhoff in *London Lancet*, April 30th, 1892, and reproduced by Dr. F. J. Shepherd in *Retrospect of Surgery*, MONTREAL MEDICAL JOURNAL, July, 1892.) Mr. A. W. Mayo-Robson (Leeds), in an article entitled "Cholecystotomy for Gall-stones performed on the strength of Symptoms without Physical Signs," and published in the *London Lancet*, January 10th, 1891, enumerates the serious complications which may arise from the presence of gall stones, and states his conclusions concerning the treatment of this condition as follows: "(1) Exhaustion from repeated attacks of pain; (2) fatal collapse from acute agony; (3) fatal jaundice; (4) dropsy of the gall-bladder; (5) empyema of the gall-bladder; (6) abscess of liver; (7) local peritonitis; (8) perforation of the gall-bladder or ducts, causing abscess, peritonitis, septicæmia, intestinal obstruction or hæmorrhage." "Bearing in mind the dangers of cholelithiasis, and knowing with what little risk the operation of cholecystotomy can be performed, if done carefully and with due precautions, I have no hesitation in recommending operation whenever there are repeated attacks of biliary colic, apparently due to gall-stones, which do not yield to a definite course, not necessarily very prolonged, of medical treatment."

With reference to the second condition one may ask, What is the attitude of the medical practitioner, to-day, towards acute peritonitis? Speaking generally, his practice is some such routine as the following. A few hours or days of expectancy, during which an attempt (generally futile) is made to discover its origin; next a course of medicinal treatment, consisting of saline purgation, administration of opium, with counter-irritation over the abdomen, or perhaps calomel in small doses, with or without sufficient opium to control pain; and, finally, when fatal collapse is impending, a resort to surgical treatment. Surely this order should be reversed? We no longer believe that peritonitis occurs spontaneously, and, in fact, in the great majority of cases we find on section that it is due to some condition which could not have been remedied by other than surgical means, as in the case here reported. To postpone the consideration of surgical treatment is in most cases to make it of no avail, while such postponement can never in any way improve the patient's chances when operation is finally resorted to. The question of operative treatment should be decided in every case *by the surgeon*, *at the very onset of the illness*, and before medical treatment, which in these cases is but a "leap in the dark," is begun. It is now universally admitted that a carefully performed exploratory operation upon the abdomen is in itself free from danger, and if the surgeon does not succeed in removing the source of the disease, the operation will at least enable the physician to pursue the further treatment of the case intelligently. In the vast majority of cases, however, the conditions will be found to call for surgical treatment, the success or failure of which will depend largely upon whether it is resorted to early or late.

A CASE OF SCLEROSIS OF THE STOMACH, COMPLICATED BY TUBERCULOUS PERITONITIS.

By Stanley S. Cornell, M.D., Athens, Ont.

Sala B., aged 67 years, a gentleman, married. General appearance anæmic, and hands and face œdematous. Height 5 feet 9 inches; slim and stooping. Total abstinence from alcoholic liquors; continuous indulgence during the past eighteen years in hot pepper-draughts, peppered pickles, and proprietary nostrums. Residence healthful. Had measles, whooping-cough, smallpox, inflammation of the bowels, and typhoid fever thirty years ago. From these affections the patient believes he has made uninterrupted recoveries.

Family History—Paternal grandfather's age and cause of death unknown. Paternal grandmother died at 79 years, disease unknown. Maternal grandfather died at 79 years, disease unknown. Maternal grandmother died at 74 years, of "dysentery." Father died at 66 years, of "consumption." Mother died at 42 years, of "palpitation of the heart." Two sisters died at 66 and 79 years respectively, of "consumption"; and a third died at 73 years, of "stomach trouble." One brother died at 76 years, of "putrid sore throat"; and another brother died at 58 years, of "erysipelas."

The symptoms about to be described are but exaggerated types of experiences that have been undergone during the past fifteen years.

Symptoms—For the last two months the symptoms have exhibited stomachal distress. It was at first found necessary to abstain from most meats, especially pork. Loss of appetite next developed, associated with restless and sleepless nights. Food has been spat up during the last three weeks, it having been observed that cabbage and beef eaten one week before had come away wholly undigested. The appetite demands but little food, after the ingestion of which, "pressure in the stomach" is felt, and continues for about half an hour. This symptom is relieved by the "belching of wind." A solution of bicarbonate of soda produces stomachal oppression, followed by the eructation of a "sour steam," the chemical reaction between acid and alkali being appreciable by the "fizzing extending to the upper part of the head" (coronal suture). All eructations, solid or liquid, are sour and frothy. The eructative act brings thick, ropy mucus, this being absent when water has been partaken of freely. The breath is at times somewhat offensive. Constipation is characteristic, fæcal movements occurring every second day; this condition sometimes obtains till the supervention of diarrhœa, after which relief is experienced. Formerly distension of the abdomen has been present, and been relieved only by the passage of gases from the rectum; now eructations render the bloating less.

The stomachal region has been the seat of tenderness upon pressure, although at the present this is not so pronounced. Palpation of the epigastric region shows slight resistance to deep pressure, but no definite condition of the tissues can be elicited. Vertigo has been a symptom for two months past, and has been observed chiefly in the morning upon rising. The taste is offensive. Two days ago, œdema of the face, dorsal regions of the hands and feet, and legs developed.

General Physical Examination.—The sclerotics are yellowish-brown in color; an arcus senilis exists. The pharyngeal mucous membrane is hyperæmic and relaxed, and the tonsils are enlarged. The tongue is protruded tremulously, and covered with a whitish-yellow fur, ruffled in patches. There are no physical signs referable to the thyroid gland. The lungs are normal; but, as is observed in many aged people, the vesicular murmur is extraordinarily loud in all regional divisions of the thorax, and approximates the bronchial respiration in pitch. Physical signs of aortic obstruction are present. It is to be noted that the murmur indicating this condition is audible with greater intensity over the carotid arteries. The area of superficial cardiac dulness is enlarged one inch to the left of the left nipple. The radial arteries are thick and firm, but not atheromatous. The pulse is of medium volume, low tension, and normal rhythm; it registers 59 beats each minute. The temperature is normal. The skin is dry and flaky; the muscles relaxed and small. The left hepatic lobe returns physical signs of increased size; but the dulness and flatness associated with the enlarged areas occupied by this lobe and the left heart render a distinction from splenic hypertrophy very difficult. The urine is voided once during the night, and is occasionally dark-red in color, and leaves a stinging sensation in the urethra when voided; chemical examination reveals no abnormal characters pertaining to the urine. The knee, the eye, and cremaster reflexes are present. The physical signs relating to the abdomen are normal except in this: the gastric tympanitic percussion-note is conveyed to the umbilicus; palpation, deeply performed, renders appreciable an indefinable resistance to the finger over the epigastric region midway between the cartilages of the seventh rib.

Treatment.—$\frac{1}{30}$ gr. of sulphate of strychnine and 1 m. of fluid extract of digitalis given before meals, and pepsin and hydrochloric acid after meals. Irrigation of the stomach with hot water, by the siphon-tube, employed every morning before breakfast.

March 14*th*, 1892.—The treatment by digitalis and strychnine was continued till the disappearance of œdema of the face, hands, legs and feet, five days after it was begun. Pepsin, hydrochloric acid, calumba, and ipecac were administered, and the use of the tube maintained. Failure in strength and loss of appetite progressed rapidly, the countenance assuming a paler appearance and the flesh falling away.

During this treatment the stomachal symptoms remained unchanged, eructations of gas and sour tastes in the mouth occurring as frequently as at any time before. The first treatments by the siphon were productive of discomfort; latterly relief has been obtained. The matters brought away by the tube have possessed a strong, sour odor, and have usually displayed a finely ground, muddy, gray material tenaciously adherent to the bottom of the chamber-vessel, and lying beneath a superimposed froth and liquid. It has been observed that the later effects of irrigation are a freer passage of gas by the rectum, a more active movement of the bowels, and a temporary lessening of the sense of weight in the stomach.

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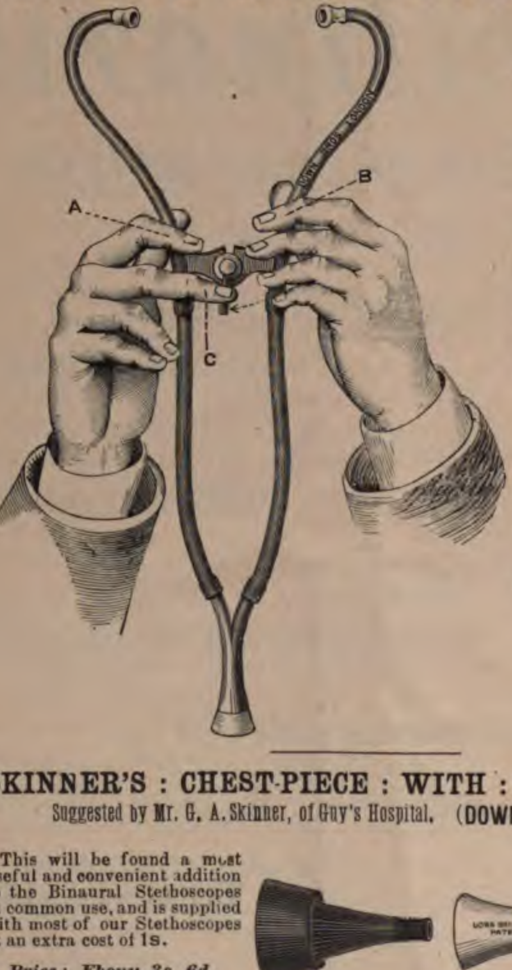

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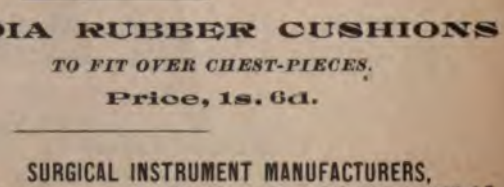

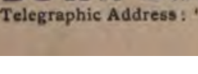

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March 21*st.*—The absorptive power of the stomach has been tested, and shows the presence of iodine in the saliva within fourteen minutes after the patient had swallowed a solution of iodide of potash.

The patient's ejection from the stomach has of late shown some alteration in colour, reddish masses, consisting of finely granular matter, held together by sticky mucus, appearing here and there, elevated above the surface of the grayish, muddy mass. The treatment by irrigation of the stomach is continued. The dietary is composed of crumbed toast in gruel.

Microscopical examination of the Ejecta.—(1) The muddy material was mounted, and presented starch-granules and fat-globules in perfect form; in addition, there appear iodine-stains in various quadrangular shapes and deep blue in colour. They have been produced by the action of the acid gastric juice and starchy contents of the stomach upon the iodide of potash given the evening previous to the microscopical examination. (2) The reddish matter was mounted, and presented old gold-coloured patches that simulated thick layers of red blood-corpuscles much compressed, and isolated masses of blackish and reddish pigment. Both mountings contained pear-shaped, triangular, and quadrangular cells, and numerous rod-shaped bacilli.

The presence in the stomachal contents of unbroken starch-granules indicates, of itself, loss of digestive power, whether brought about by vitiated gastric juice or by obliteration of the peptic glands—(*Mills*, "Animal Physiology," page 311, art., Starch).

March 24*th.*—Physical signs relating to the epigastric region, the patient being free from tympanitic distension of the abdomen: The epigastric region is the seat of a tumour, which begins 2½ inches below the xiphoid appendix and extends to a point within a quarter of an inch of the upper border of the navel. The measurements of the tumour are the following: transverse, 3⅜ inches; vertical, 2⅞ inches. Pulsation of the abdominal aorta elevates, but does not expand the tumour, and deep inspiration produces depression to the extent of three-eighths of an inch. On deep inspiration the percussion-note is tympanitic; on deep expiration it is dull. The form of the tumour is circular, and pressure induces pain. Deep palpation reveals a hard ridge passing vertically from right to left $1\frac{3}{8}$ in., and taking origin in the upper border of the enlargement. From the lower third of the right border of the tumour a less prominent ridge passes to the left and downward two inches. Both ridges become lost in a thick, nodular mass which forms a part of the whole enlargement. There is absence of firm texture between the tumour and the inferior cartilaginous margins of the 8th, 9th and 10th right and left ribs, and in these situations the percussion-note is high-pitched and tympanitic.

March 31*st*.—The introduction of the siphon to-day was met by a gush of muco-purulent matter. All through the day this material has been brought up at intervals by hawking and by expectoration.

The thermometer has been employed many times, but I have observed no rise of temperature above the normal since my first examination of the case. I am informed by the patient's wife—a lady of intelligence—that there occurs every second afternoon a slight fever, the signs of which are thirst, dryness of the tongue, flushing and increased heat of the skin, and restlessness. Expectoration brings mucus and muco-pus, the breath continues offensive, and anorexia is pronounced. The patient is much depressed, all voluntary movement being feeble and the voice low and husky. Death is apparently imminent.

April 2*nd*.—The patient still spits large quantities of muco-pus, experiences a burning pain in the epigastrium, and is worried by constant hiccough occurring in prolonged, feeble, inspiratory squeals. The bowels are obstinately constipated, the respirations slow and long-drawn, the pulse feeble and slow, and the mind clear and active.

The symptoms described as pertaining to an apparently speedy death continued from March 31st till April 10th. Fever developed every afternoon, the nights were spent in restless changes, and at times palpitation of the heart lent much to the discomfort. Hiccough was almost constantly present during these days. The treatment given promoted comfort and sustained vitality. Baths were employed every second day, warm water was injected into the stomach twice a day by the syphon, and half a cupful of strained oatmeal gruel was administered during each period of twenty-four hours. On April 11th the bowels were freely moved by an enema, hardened fæcal masses coming away.

From April 12th to May 28th I rely upon the statements of the patient's wife concerning the progress of the case. The patient had fever every day. The quantity of food was gradually increased, cornmeal and milk being used. The bowels were moved by enema every second day, and upon the intervening days stomachal irrigation was carried out with the rubber-tube. Nutritive enemata were given twice a day till April 27th, when rectal irritability rendered their further use impossible. The general condition of the patient permitted him to sit bolstered up in bed, then to walk a short distance when supported by the arm, then to sit in a chair for a short time. One significant symptom has been observable: four ounces of buttermilk impart to the stomach a sense of over-fulness.

The improvement occurring between May 28th and June 20th was remarkable. Much of the patient's colour returned, and many surface-depressions partially filled—evidences of increased nutritional power. Mental activity continued uninterrupted, and matters pertaining to complex business-relation were discussed with wisdom. The small quantity of buttermilk taken each day was reduced to a tablespoonful to avoid the sense of crowding that so steadily developed. Deep palpation of the epigastric region gave no pain. The psychical effect of a return of flesh and strength gave the patient great hope of recovery. But there occurred no change in the objective features of the case. The increase of adipose tissue rendered the gastric tumour less perceptible, although its constant characters—nodosity and induration—were detected with deepest touch. Slight puffiness of the dorsal surfaces of the feet, near the origin of the toes, redeveloped, and large quantities of bile were brought away by the tube from time to time.

June 27th.—The patient was again seen to-day. Emaciation and anæmia—the skin presenting a yellowish-white appearance

—have progressed rapidly. A small quantity of bile and pus has been spat up since the 20th inst. The pulse is small in volume, and the voice weak and husky. While the distress incident to systemic weakness is marked, ease of stomachal sensations has been procured by the morning use of irrigation—a procedure most difficult because of obstruction to the passage of the tube. The physical signs in the epigastric region are these : an ovoid tumour, nodular and hard, exists, its highest level being between the cartilages of the ninth ribs ; its lowest left border just skirting a line a little to the left of, and parallel with, the navel, and its lowest right border passing to the right and somewhat below it. The percussion-note over the region occupied by the swollen mass is tympanitic, but low in pitch. I cannot understand why this should be, unless it indicate a stomach contracted in one situation and dilated in another. Yet the note does not possess the high pitch characteristic of gastric resonance, nor does it ascend : it is situated in an area limited by the navel below, and passing upward an inch and a half.

July 1st.—The general conditions pertaining to the patient are as before. The tumefied mass in the epigastric region has enlarged, and occupies fields advanced to the right and left of the navel. The abdomen below the epigastrium is retracted, and the note upon forcible percussion is dull. Palpation reveals no condition that should render a note dull over the entire belly.

July 6th.—The patient died at midnight.

Post-mortem Examination of the Stomach and Omentum Majus.—It must be explained at the outset that a post-mortem examination in the country is usually curtailed by the expressed desire of relatives that there shall be little mutilation of the body, a wish usually respected when witnesses sensitive to each stroke of the knife observe proceedings. This will account for the meagreness of my report.

An incision was made through the tissues from the xiphoid appendix to the umbilicus. The hand, introduced within the abdominal cavity, encountered a shreddy, granular, and closely adhering omentum. This was elevated, when numberless yellowish-red tubercles were seen in various degrees of irregularity.

The omental tissue was threaded and beady, small peritoneal investments passing in different directions, hemmed by connective tissue frames in some situations, and lying free in others. Further traction brought ulcerated omentum, honey-combed, and attached to the spleen and pancreas, all being bound in one resisting, nodular mass. The transverse colon, in its middle and left two-thirds, was drawn transversely above the adherent organs. Its coats were normal and it was free from distension. The relation of the colon to the "tumour" heretofore described accounts for the low-pitched tympanitic percussion-note detailed in the later stages of the patient's illness. As tuberculous infiltration of the omentum progressed, contracting tissue caused ascent of the colon. Only that part of the omentum majus passing from the stomach to the colon was examined. The spleen and pancreas were normal in size and consistence. The stomach was felt high up in the interval between the fifth and sixth ribs, firmly bound to the omentum along the lesser curvature. Its length is 6⅜ in., and depth 3 in. The serous coat is firm, thickened, and darkly congested, and lies closely adherent to the entire external surface of the stomach. A nodule the size of a filbert is situated in that portion of the lesser curvature half-way between the œsophageal and pyloric orifices; its outer surface is smooth and of a dark blue colour—probably epithelial in character—and its internal structure is fibrous. The fundus is soft and easily folded upon itself; its outer surface is traversed by large veins which abruptly terminate at the middle third of the stomach. From the termination of the fundus to the gastro-duodenal junction great thickening and increased firmness exist. The stomachal capacity is four ounces. Upon loosening a ligature thrown about the œsophagus a small quantity of muco-bilius matter, dark-red in colour, escaped. The stomach-walls in section reveal normal thickness of the fundus, from the margin of which increasing thickness and resistance are encountered till near the pylorus, where the anterior wall is five-eighths of an inch in breadth. Microscopically, no distinction can be made between muscular and mucous elements, for all are blended in one dense mass of fibrous tissue. This tissue is not so dense, neither is it as firm, as that encountered in scirrhous cancer, its components being thrown more loosely together. The mucous membrane of the fundus is involved in slight fibrotic changes, and this condition is traceable to the body of the stomach, where dark, irregular, rugous elevations, covered with slimy muco-bile, exist. At the middle of the interior of the stomach the mucous membrane rises slantingly in a broad oak-leaf-shaped prominence, 4 inches broad by $3\frac{1}{2}$ inches long, grayish in colour, surrounding the walls and passing through the pylorus. From the termination of the fundus to the beginning of this elevation the rugæ are blackish-red in colour, the mucous membrane is inseparably adherent, and beneath it the submucous tissue has developed into hardened fibrous material. Upon the posterior wall of the stomach, an inch and a half from the pyloric valve, is observed an ulcer $\frac{7}{8}$ in. in diameter, having rounded edges rising $\frac{1}{15}$ in., its base being dense fibrous tissue. The detection of this ulcer renders perceptible the origin of the pus spat up during the latter part of the patient's illness. The pyloric valve is marked by a slightly elevated, hard, puckered mucous membrane, dark-red in colour. The pyloric orifice nicely admits a match.

From the physical evidences existent, the process of fibroid degeneration originated in the mucous membrane, for here the greatest degree of induration was present. The liver tissue was dark, but not unusually firm, and presented the conditions of passive congestion. The right kidney was enucleated ; its capsule was strongly adherent, and necessitated removal by tearing. On vertical section, three areas of hyperplastic connective-tissue were found in the medulla.

ON TWO CASES OF EXCISION OF THE ASTRAGALUS FOR INJURY.

By Francis J. Shepherd, M.D.
Surgeon to the Montreal General Hospital.

The astragalus is not very frequently removed except in the course of the operation of excision of the ankle or for correcting the deformity in the severer forms of club-foot. The two cases narrated below have many points of interest. In both, injury necessitated the operation; in one case the traumatism caused dislocation with fracture, and in the other dislocation alone. Both cases resisted all efforts at reduction. In one case this was apparently due to the fact that the tendon of the *tibialis posticus* had in some way become tightly stretched over the outer surface of the astragalus and thus prevented its reduction. The case of fracture, which afterwards became compound, resulted from jumping off a train whilst in motion, and within the last few years I have seen several cases which were due to the same cause, though in all these cases the fracture was simple. The patients recovered with useful feet but stiff ankle-joints, and with some deformity. In the cases of excision the result was much better, and the patient could move about with more freedom and less limping, although there was more shortening. In the case of fracture, there was also dislocation of the anterior fragment. The character of the fracture was of interest. The astragalus was broken into three pieces, the central portion corresponding to the part covered by the lower articular surface of the tibia. The anterior portion was formed by the head and the posterior by the projecting portion of astragalus which is grooved for the tendon of the flexor longus hallucis muscle.

Case I—*Dislocation of the Astragalus, with fracture of the inner and outer malleoli of the ankle-joint.*—M. G., aged 25, a pedlar, was admitted into hospital July 10th, 1886, with the following history. On 27th May last fell out of a waggon and caught left foot in wheel; in this way twisted ankle. On being released, found foot out of place and could not walk. Twelve hours after accident, was seen by Dr. H. Stevenson of Wakefield, Que., who, after getting foot in position, placed it in a box splint; there was great swelling. After sixteen days the foot was examined under chloroform and an attempt made to reduce the displacement, but without result. The foot was again put in box splint, in which it remained till a day or two before entrance into hospital, when it was put up in a glue bandage.

Present condition.—Patient, a small-sized, wiry-looking man, was placed under ether and examined; the foot was strongly everted, and there was a dislocation of the astragalus downwards and forwards; internal malleolus very prominent and skin red, and a small opening over it communicating with the bare bone; tendo-Achillis contracted; fibula fractured 3 inches from lower extremity, and united at an obtuse angle; a considerable slough had formed on heel. After attempting, unsuccessfully, to reduce the displacement, the tendo-Achillis was cut and another unsuccessful attempt at reduction made. An incision was now made from the internal malleolus forwards to the base of the first metatarsal bone, 2½ inches long. The joint was exposed and the following condition found. The tip of the internal malleolus was broken off and ununited, the astragalus was thrown forward and separated completely from the tibia and fibula, with the exception of the internal ligament, which was attached to the broken portion of the internal malleolus. Lying between the tibia and fibula, and tightly stretched over the outer side of the astragalus, was the tendon of the tibialis posticus muscle (the anticus was in its place). This had been one of the causes of the failure of efforts at reduction, as the tendon held the bone in place. The tendon was cut, but reduction was still unsuccessfully attempted; so the astragalus was freed from its remaining ligamentous attachments and removed, also the fractured portion of the internal malleolus and the end of the fibula. The foot now came into position, and was dressed with a pad of sublimated jute and a rectangular splint placed on outer side. There was considerable oozing for twenty-four hours.

A small pocket of pus formed at inner side some ten days after the operation; this was opened. The slough on the heel gave considerable trouble; and from that time patient went on well, though for some time pus continued to burrow up the leg, which had to be freely incised. By the beginning of September the foot was doing well.

Early in October he commenced to move about on crutches, and could put his toes to the ground. He was discharged on Oct. 10th with all the wounds healed with the exception of an ulcer on the heel the size of a 25-cent piece.

I saw the patient in January 1887. He had a suitable boot made, and could walk about and attend to his business comfortably. The ulcer on the heel had completely closed. There was about two inches of shortening.*

CASE II—*Dislocation with Fracture of the Left Astragalus and Compound Comminuted Fracture of Right Tibia and Fibula.*—J. C., aged 22, brakeman, was admitted into the Montreal General Hospital August 8th, 1886, suffering from severe injuries to both legs. He gave the following account of the accident. Whilst "braking" on a freight train, which was going at the rate of between 30 and 40 miles an hour, patient was standing on the top of the last car; the train swept round a curve and threw him off his balance, so to save himself he jumped and landed on his feet. He was picked up and taken to a doctor, who applied temporary dressings to his injured legs and sent him into Montreal to hospital, where he came under my care.

On entrance his condition, taken from the case report by the house surgeon, Dr. Birkett, was as follows: "Upon the right leg, opposite the upper portion of lower third of tibia, a transverse, irregular wound is seen, 2½ inches long, communicating with fractured bone. On examining still further the tibia is found to be splintered into several pieces, whilst the fibula is fractured about its middle third. Pulsations felt both in dorsalis pedis and posterior tibial arteries. Considerable amount of oozing from the wound. On examining the left leg it is found to be much swollen, very painful and tender. The foot is strongly inverted and fixed. Half an inch below and in front of the external malleolus a sharp prominence of bone is felt, over which the skin is tightly stretched. This apparently is a fractured portion of the astragalus which is dislocated outwards. The circulation in foot is good."

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* This patient was presented to the meeting of the Canadian Medical Association, in Montreal, September 1891, and at that time had a most useful foot, and could walk with very slight limp.

The compound fracture of the tibia was treated in the usual way with iodoform and jute pad after thorough irrigation with 1–2000 of bichloride, and, after a few days, put up in plaster-of-Paris, a window being left opposite the wound. The loose pieces of bone had previously been removed, and the wound granulated rapidly with but little suppuration, and there was good union of the bones with about two inches shortening.

At the present time the condition of the left foot interests us more and bears directly on the subject now engaging our attention. The patient was placed under ether and reduction of the displaced fragments of the astragalus attempted, but without result, so, considering the general condition of the patient and the other injuries, no further attempt at reduction was made, the foot being put up in a splint and kept at rest. On the 4th of September, the general condition of the patient being favourable, the left foot was again examined. On removing the dressings it was found that the skin over the projecting portion had sloughed, and that the broken bone projected through an ulcer about the size of a 25-cent piece. It was at once decided to remove the astragalus ; so the patient being placed under ether, an incision was made from the external malleolus downwards and forwards for some two inches, and through this incision the three portions into which the astragalus was broken were easily removed. The anterior and posterior portions were quite free, whilst the central fragment, which corresponded to the portion covered by the lower end of the tibia, was attached to the inner malleolus by the internal lateral ligament, and there was no fracture of either malleoli. The wound was stuffed with sticky iodoform gauze and covered with a jute pad, a back splint being applied.

The progress of the case was most satisfactory, the wound having completely healed by November 14th and motion of foot good. Patient was going about the ward on crutches by 18th January, and was discharged from hospital on Feb. 5th, 1887, with good union of right leg and excellent motion of right foot. He walked well without a limp, the shortening (two inches) being the same in both legs. We could not have told by his gait that he had suffered from such a severe accident. I have heard of him several times since, and he is gate-keeper on one of the railway crossings. I am told that he walks without fatigue and without any limp. In this case removal of the bone was necessitated by the character of the fracture, for had the parts been left, the anterior and posterior fragments would surely have necrosed and led to greater trouble. The result of the case was in every way satisfactory.

A CASE OF PUERPERAL INFECTION FOLLOWED BY MULTIPLE ABSCESSES.

By John A. Hutchinson, M.D.

In the editorial column of the July issue of this journal the following occurs :

> "Fochier of Lyons observed that in cases of severe puerperal infection, when multiple abscesses formed, the patients recovered more frequently than when such was not the case. This led him to endeavor to produce such abscesses artificially, hoping by those means to favorably influence the course of the disease. He experimented with various substances and finally employed spirits of turpentine. This he injects into the subcutaneous tissue, preferably about the upper part of the extremities. The irritation thus produced seems to offer a suitable nidus for the pathogenic microbes, and they concentrate their action at these points and so relieve the general system."

I therefore report the following case, which to my mind appears to corroborate the above conclusions.

On May 29th, 1892, I attended Mrs. H., aged 22, who was confined of her first child. Nothing unusual worthy of note occurred at the time of labor. Full antiseptic precautions were observed. The placenta came easily away. There was a small rupture of the perineum, which was sutured at the time. On the fifth day after labor the patient had a chill, followed by a temperature of 104°, pulse rapid, and other symptoms indicative of puerperal fever. For the next week the temperature fluctuated from 100° to 105°, and on one occasion registered 105½° in the axilla. At this time a swelling, with fluctuation, developed in the left wrist. Dr. Wm. Gardner, who saw the case, advised free evacuation of the contained pus, and this was accordingly done. About the same time another abscess formed over the abdomen and was treated in the same way. From this time onwards the patient gradually recovered, and in a couple of weeks more was out of bed. The treatment generally adopted, such as quinine, stimulants, fresh air, and a thorough antiseptic washing out of the uterus, was followed, but there was no abatement of dangerous symptoms until the abscesses formed and were evacuated. In this case no means were taken to artificially produce the abscesses, but it seems to me to be a reasonable and proper scientific method to adopt in such cases.

A CASE OF ZOSTER-OPHTHALMICUS.*

By F. Buller, M. D.,
Professor of Ophthalmology and Otology, McGill University; Ophthalmic and Aural Surgeon to the Montreal General Hospital.

On March 8, 1892, there came to me a naturally robust man, aged 41. Had an attack of influenza two years ago, which left great impairment of hearing in right ear, and has never felt quite himself since. He is a grocer, and in the habit of taking stimulants and using tobacco rather freely. Two weeks previously the left eye became inflamed, with severe pain in and about the eye. The pain was most severe at night, and, as far as he can tell, the condition is about the same as it was two weeks ago. There is moderate ciliary injection, some lachrymation, and vision is greatly impaired by a superficial ulceration over the pupillary area. The appearance of this ulcer is quite peculiar. Over the lower half of the pupillary area there was a superficial ulceration, with no surrounding infiltration, and extending up from this three little ulcerating grooves, each surmounted by a rounded ulcerating infiltration (dendritic ulcer). The diagnosis was herpetic keratitis, although there was no herpetic eruption anywhere else.

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* Read before the Medico-Chirurgical Society of Montreal.

The patient had the peculiar heavy breath and coated tongue we so commonly meet with in painful affections of the eye. His appetite was poor and spirits much depressed. I ordered him hot water in the morning, a tonic of pepsine, nitro-muriatic acid, and small doses of quinine. Locally, atropine and warm fomentation. There was little change for some ten days, but the digestive functions having improved, I put him on increasing doses of arsenic. About the 20th of March I substituted pilocarpine for atropine and used hot water instillations on the ulcer twice daily. Had to abandon the arsenic after ten days, with very little improvement in the ocular condition, because the stomach became irritable and appetite failed. He was ordered bismuth before meals and pepsine and hydrochloric acid after. Under this treatment the eye greatly improved. On April 11th he came, saying he had had severe pains in the left arm for two or three nights, and woke up this morning with a rash on the arm. This is a typical herpetic rash, extending from half way up the arm all down the forearm and ending on the thenar eminence. It follows closely the course of the musculo-cutaneous nerve. The rash gradually faded, and after about ten days was represented by the red spots or stains which always follow zoster eruptions, some of them depressed scars. The eye steadily improved under the treatment last mentioned, and he returned home about the 22nd of April with the eye almost well. At the time of the rash on the arm, occurred also two small spots like catarrhal herpes near the outer extremity of each eyebrow. Apart from this, the usual law of asymmetry of herpes zoster was conspicuous, the left eye and left arm being the parts affected. It is unusual to find such a combination as this case presents in zoster ophthalmicus.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

SURGICAL CASES UNDER THE CARE OF DR. SHEPHERD.

(Reported by Dr. W. D. Smith, House Surgeon.)

I.—*Double Gonorrhœal Orchitis.*

J. S., aged 21, a carpenter, was admitted to the hospital April 27th, 1890, under Dr. Shepherd's care, suffering from an inflamed and painful testicle.

History.—He was a well-built, healthy-looking young Scotchman, of temperate habits. He had had scarlatina and measles, but apart from these he had never been sick, and enjoyed good health. His father, mother, six brothers and one sister were living and well. There was no history of tubercle in the family. Five months before admission he had gonorrhœa, which was treated with injections and internal medication, the discharge and pain ceasing after a couple of weeks' treatment. He continued quite well, apparently, until April 26th, when his right testicle became hot, painful and swollen. It continued getting worse, and on the second day a doctor gave him a lotion for it, and advised rest in bed. The following day he entered the hospital, with his testicle swollen to twice its normal size, quite firm, hot and tender. The epididymus, as well as the spermatic cord, was swollen and tender. He was put to bed, with the testicle elevated, cold lead lotion applied on lint, and given calomel, one grain, with five of Dover's powder, three times a day. On the third day after admission the pain was excessively severe, so the tunica albuginea was punctured with a narrow-bladed knife, and the patient experienced much relief. The calomel was discontinued on May 5th, the patient's gums being slightly affected, and the cold applications changed to hot lead and opium fomentations every four hours.

Under this treatment the testicle gradually decreased in size, becoming less painful, until May 15th, when it was slightly larger than normal, but quite hard still. During this time his temperature was irregular, ranging from 99° to 102°.

On May 16th he complained very much of pain above the pubes and in the right inguinal region. Leeches were applied, followed by hot lead and opium fomentations. His temperature, which was down nearly to normal for a week previous, varied from 99° to 100° until the 24th of May; the pain in the inguinal region remaining during this time and then disappearing. The severity of the pain was variable; some days it was very severe, while at others it was nearly absent. The right testicle was of normal size and painless.

On May 27th the left testicle became hot, painful and swollen. An ice-bag was applied, testicle elevated, and calomel, two grains, with five of Dover's powder, given three times a day. The following day the testicle was very much more swollen and excessively painful. He was given one grain of opium three times a day in addition to the calomel and Dover's.

On June 5th all medicines were stopped. Testicles were of normal size and painless. With the exception of some tenderness over the lower zone of the abdomen, the patient felt quite well. On June 10th his right testicle became swollen again, but this disappeared in three days on the application of an ice-bag.

The pain and tenderness over the lower zone of the abdomen continued until the 14th day of July, when it disappeared entirely. There was slightly diminished resonance on percussion in both apices, but no other physical signs of disease.

Most of the time while in hospital his diet consisted largely of milk. He suffered very much from constipation, requiring purgatives most of the time and very frequently enemas.

The patient left the hospital on the 19th of July, free from pain, but weak and anæmic. There still remained some inflammatory thickening of the right epididymus and spermatic cord. He was seen a week later, and his general condition was very much improved; he had had no return of the symptoms.

II.—*Pyelo-Nephrosis consequent on old standing neglected Stricture; Death.*

D. H., aged 33, suffering from retention of urine, applied to the outdoor department of the General Hospital for relief on June 28th, 1890. It was found impossible to pass a catheter, even after the administration of an anæsthetic. He was then aspirated above the pubes, and part of the urine, some thirty ounces, removed. He was afterwards admitted to the wards under Dr. Shepherd's care.

History.—The patient was a well-built, unmarried Scotchman, an upholsterer. He was intemperate and irregular in his habits. He had measles when young and gonorrhœa fourteen years ago. Apart from these his general health had always been very good. Shortly after having the gonorrhœa he began to have difficulty in micturating, the stream gradually diminishing in size. He had used very strong astringent injections, and thinks they had something to do with causing the stricture.

In 1878 he had suppression of urine, and had to be aspirated, as no instrument could be passed. At that time he remained at rest in bed for three weeks, and was pretty free from his complaint for a year. But, owing to his intemperate habits, he again experienced difficulty in micturating, and from 1882-84 he was unable to fully empty his bladder. It seemed to fill and flow over at times. Micturition was frequent, accompanied with scalding sensation along the course of the urethra and end of penis. In 1886 the stream passed was no larger than a knitting-needle, and frequently there were two or more streams. That same year external urethrotomy was performed in Glasgow, and for two years he was free from the complaint. After that the stream again became diminished in size, and he had to strain while micturating Micturition was very frequent, and the amount passed each time was small. He had no instruments passed for over two years after being operated upon. On admission there were no physical signs of disease in any other part of his body.

Dr. Shepherd succeeded in passing a small catgut bougie, and then sounds to a number 7. He was put to bed and given twenty-five grains of quinine. That evening he had a slight chill. On July 1st he was given twenty-five grains of quinine, and two hours afterwards sounds up to number 12 were passed, and no chill followed. After this he felt quite well, and was able to pass his urine quite freely. He left the hospital on July 4th.

He was readmitted to the hospital on July 21st, complaining of frequency of micturition, which was accompanied with pain and the passage of blood. He was quite well for twelve days after leaving the hospital (July 16th), when micturition became frequent, having to pass urine every two hours, and every hour the following day. This was accompanied by pain along the course of the urethra and point of the penis. With the last urine passed for a couple of days before admission he noticed small clots of blood, the urine itself being of a dark-brown and muddy appearance. During these two days he had some pain about the right lumbar region. Shortly after admission he suffered very much from constant pain in the region of the right kidney. These pains were subject to exacerbations, the pain darting down the course of the ureter and into the right testicle. Owing to the severity of the pain it was impossible to palpate the right side of the abdomen. His urine was of a dark-brownish color, containing pus and blood-cells in abundance. He was given morphia, gr. $\frac{1}{4}$, hypodermically, three or four times during the twenty-four hours, for the pain, and hot fomentations were applied to his abdomen and over the kidneys. He was also given Ext. Ergot. fl. ʒi three times a day. The amount of blood gradually diminished in quantity, disappearing entirely about the 1st of August. The amount of pus gradually increased in quantity. The quantity of urine passed varied from 48 to 80 ounces in the twenty-four hours. His temperature on admission was $99\frac{1}{2}$°, but was never very high; on July 28th it was 102°, after that it gradually subsided, and became subnormal on the 6th of August, and remained so until his death on August 12th. His appetite was poor throughout; the only nourishment he took was some milk. His pulse varied from 80 to 100, and his respirations were about 20 to the minute. He became very weak, and was fed by enemata of beef-tea and brandy.

The autopsy showed pyelo-nephrosis of the right kidney, hydro-nephrosis of the left, thickening and dilatation of both ureters and cystitis.

Remarks.—This case illustrates well the course of events which result from the neglect of stricture. As a rule the patient is of intemperate habits, and as long as he can make water at all refuses to be treated, only applying for relief when there is an absolute stoppage to the flow of urine. There is no disease so easily treated as stricture if taken in time and treated continuously. It is one of the most difficult things possible to make a patient suffering from stricture believe that he has a disease which needs constant treatment, and to impress upon him the necessity, even if he is passing a fair stream, of the occasional passage of an instrument. He returns usually when retention has taken place, and every time the difficulties of passing instruments increase, till finally, if he has not extravasation of urine, with possibly permanent fistulæ, his kidney becomes damaged, and he dies of surgical kidney.

III.—*Rupture of the Tendon of the Quadriceps Extensor Muscle treated by Plaster-of-Paris Bandage.*

M. W., a widow, aged 41, was brought into the hospital by the ambulance on the morning of June 11th. She had a fall the evening before, and thought she had fractured her patella.

History.—Five years ago she slipped and fell on the ice, fracturing her left patella, and was unable to walk with it for eighteen months. Her health has been good apart from this.

The evening before coming in she slipped and fell down a couple of steps while going out of the house. As she fell she heard a distinct snapping sound, and her leg immediately doubled up beneath her and remained flexed on the thigh. She managed to get back into the house, and found she was unable to extend her leg except to a slight degree.

Condition on Admission.—She was a healthy-looking and intelligent woman. There were no physical signs of disease in the heart, lungs or elsewhere. Her right knee was painful and swollen, with the leg flexed upon the thigh. She was able to extend it partially. The patella was intact and in its proper position. Immediately above it, at the attachment of the tendon of the quadriceps extensor, was a marked depression, where the tendon had ruptured. The left patella, which had been fractured five years before, was united by fibrous tissue. The two fragments were about an inch and a-half apart.

The right leg was extended while it was bandaged with a flannel bandage. the bandage being applied in the form of a figure of eight about the knee-joint. It was then put up in plaster-of-Paris, with the heel well elevated. At the end of six weeks the plaster was removed, good union was found to have taken place, and a posterior leather splint, reaching from the upper third of the thigh to half way between the ankle and knee, was applied. She was then allowed up on crutches.

She left the hospital on the 30th of July, still wearing the splint, and going about without the aid of crutches. Since then she has reported herself perfectly well.

IV.—*Strangulated Inguinal Hernia; Radical Cure; Recovery after a somewhat prolonged attack of Mania coming on a month after Operation.*

J. T., aged 44, was brought into the hospital at noon on May 2nd, 1890, from the docks, where he was found suffering intense pain and vomiting caused by the descent of an old inguinal hernia.

History.—He was an Englishman, and had always worked about paper factories, very frequently having to lift heavy bundles of paper, etc. He was a man of intemperate habits. He had gonorrhœa when a young man, inflammation of the bowels six or seven years ago, and intermittent fever a year later. Twelve years ago, while lifting a heavy bundle of paper, he ruptured himself, and was obliged to wear a truss ever afterwards. The bowel had frequently descended, owing to a defective truss, but he had succeeded in reducing it himself, until last February, when on two occasions he had to have it reduced by a doctor, without an anæsthetic. For four days previous to his admission he had been drinking heavily, and was still under the influence of liquor when brought in. He thought it had occurred between eight and nine that morning, but had no recollection as to how it was brought about.

Condition on Admission.—A large inguinal hernia on the right side was found, filling the scrotum. It was firm, hard and resisting, with a dull note on percussion, excepting just over the external abdominal ring, where there was a faint approach to a tympanitic note. The perineum and greater portion of the scrotum was of a dark-purplish color, as though he had received a blow or had been kicked. Taxis was applied, but failed to reduce it, both before and after ether was given. It was therefore decided to operate.

Operation.—After the parts had been shaved and thoroughly washed, an incision two and a-half inches long was made in the direction of the hernia. The different coverings were carefully cut through, and on opening the hernial sac a large mass of omentum presented, with about six inches of intestine lying beneath it. The latter was very much congested and of a dark-purplish color. That portion lying within the internal ring was very much constricted. At first it was thought that portion of the bowel would have to be resected, but it was finally decided to return it to the abdominal cavity as it was, which was done, as well as a portion of the omentum. It was impossible to return a large portion of the omentum, about half a pound. It was therefore ligatured with catgut in several places and cut away, the remaining stump being returned through the internal ring. The sac, which was adherent to the scrotum and canal in several places, was dissected away and excised. Poupart's ligament and the conjoined tendon were brought together with a couple of strong silk sutures. The remains of the hernial sac were included in these sutures The edges of the wound were brought together with silkworm gut sutures. A small rubber drainage tube was used, and the wound was painted with iodoform paint, then dressed with washed gauze and absorbent cotton.

The first four days succeeding the operation the patient was very restless and extremely thirsty, but was allowed nothing but small quantities of lukewarm water, until the third day, when he was given half a pint each of milk and lime-water. This quantity was gradually increased and some beef-tea added on the fifth day. He was still very restless, sleeping very little and suffering much from a cough and expectoration of viscid mucus, for which he was given small doses of morphia. On May 7th he was given half an ounce of magnesium sulphate, followed by an enema of soap and water, which caused a free evacuation of the bowels, and patient felt easier and rested better afterwards On May 13th his bowels acted voluntarily, without the aid of any medicine. The wound was dressed every three or four days, and the patient was doing nicely until the 10th of May, when he had an attack of diarrhœa, lasting a couple of days. At this time a small slough came away from the lower end of the wound. His temperature was irregular, ranging from 99° to 101°.

He remained quite well then until June 4th, when he had some scalding pain along the urethra, with frequent and difficult micturition. The urine was deficient in quantity, twenty-five to thirty ounces in the twenty-four hours, and contained a small quantity of albumen, but no casts. This condition lasted one week and then disappeared. The silk ligatures from the omentum came away through the small opening caused by the slough on the 16th of June. About this time he became very drowsy and stupid, with nocturnal delirium.

His condition gradually got worse, and he became delirious by day as well as at night. He would start suddenly and get out of bed, but when spoken to was quite rational, and would say he did not know why he got up and appeared to know nothing about what he had been doing. This condition lasted about a week, when he became violent at times, and had to be tied down. At the same time he was subject to illusions and delusions. He became very restless, noisy and sleepless. His appetite was poor, and he would not take anything in the way of nourishment unless the nurse fed him. He was very much emaciated and had a haggard appearance. On July 7th he refused all nourishment for three days, and was then fed by a rubber tube introduced into his pharnyx through the nose. On July 14th he became quite rational, appetite improved, and he continued to gain rapidly until his exit from the hospital on August 13th.

When he left the wound was all healed with the exception of a minute sinus at its lower end.

Remarks.—It is difficult to account for the occurrence of the mania in this case, coming on as it did so long after operation. It was not due to iodoform, for but little of this was used after the first dressing. The condition of the bowel was such that it was returned with hesitation, but, as events tured out, it apparently recovered completely.

V.—*Abscess in Right Lumbar Region; Operation with Resulting Fæcal Fistula; Primary Affection probably Appendicitis; Recovery.*

Geo. H. O., a machinist, aged 40, was admitted to the Hospital on June 16th, 1890, supposed to be suffering from typhlitis or some inflammation in the neighborhood of the appendix.

History.—The patient was a married man with a family, and had always enjoyed good health, never having been sick, with the exception of the measles. He was very regular in his habits, and temperate; as far as he knew his family history was good.

Three weeks before admission he felt tired and out of sorts, but continued working for a week, when he was seized one morning with a severe pain in the region of the umbilicus. He remained at his work that day until noon, but the pain became so severe that he had to go to bed and remain there. The pain was so severe that he lay with his thighs flexed on his abdomen and had to have morphine hypodermically, as well as hot fomentations. The pain soon spread to the right iliac fossa and lumbar region and remained there. His bowels, which were quite regular before the attack, became constipated, and he had no passage for four days, but with the aid of enemata acted regularly until his admission.

The second day of the attack he had a severe fit of vomiting, the vomited matter coming up without any effort, the last being dark and foul smelling. The patient thinks it contained fæces.

Condition on Admission.—Patient appeared to be well nourished, but looked a very sick man, although he complained of no severe pain. His tongue was coated with a yellowish white fur, appetite was very poor. Heart and lungs presented no physical signs of disease, urine was normal. His abdomen was distended and prominent, the prominence being chiefly towards the right side, which was of a dusky red color, evidently caused by the local applications. The right lumbar region was found on palpation, to be firmer, more resisting and tender on pressure and dull on percussion. The muscular resistance over the whole abdomen was very well marked. Over the umbilical region the note was tympanitic as was also that over the left side. Dr. Shepherd on seeing him noticed fullness of the right side and thought he could get fluctuation in the right lumbar region, and advised immediate operation. The right inguinal region was not involved in the disease, nor was there any mass to be felt there.

Operation.—An aspirating needle was introduced into the right side and pus found. He was then etherized and an incision two inches long made in the right side, beginning just below the last rib. The abdominal muscles were cut through and an aspirating needle again introduced, followed by the escape of pus. A director was then pushed through the tissues followed by a pair of artery forceps, and the opening enlarged, letting out a considerable quantity of foul pus which had a fæcal odor. The opening was enlarged by cutting the anterior margin of the quadratus lumborum muscle, and several septa in abscess cavity were broken down. The cavity, which extended up beneath the liver and beyond the median line, was washed out with boiled water at 110° temperature. The limits or the origin of the abscess were not made out at the operation. A couple of large rubber drainage tubes were used and the wound dressed with iodoform, washed gauze, and a jute pad.

From the time of the operation until the 3rd or 4th of July, the discharge from the wound was profuse and contained fæces; some days the quantity of fæces was large. All this time it was dressed and irrigated with a solution of boracic acid twice a day. On the second day his bowels were moved freely by an enema of soap and water. His diet consisted chiefly of milk, beef tea and broths. His temperature varied from 99° to 101° until the 5th of July, after that it was normal throughout. On July 11th, the discharge being small in amount and containing no fæces, he was allowed to sit up in a chair. The last tube was removed on August 1st, and he was allowed to walk about the wards. He left the Hospital on August 12th with the wound completely healed with the exception of a sinus through which a small quantity of watery pus escapes.

Patient seen a year later and was in perfect health; sinus had closed soon after leaving the hospital.

Remarks.—The origin of this abscess was doubtless an inflamed and perforated appendix, probably grangrenous with grangrene of the ascending colon, which led to a fæcal fistula. Although the case in its onset somewhat resembled appendicitis, yet the physical examination revealed no lesion or tenderness of the right iliac region, the tenderness and fullness being distinctly confined to the right lumbar region posterior to the colon. In this case probably the appendix was curled up behind the cæcum and ran up for some distance behind the ascending colon, as cases are on record of this structure reaching almost up to the liver.

CONDENSED REPORTS OF MEDICAL CASES UNDER THE CARE OF DR. FINLEY.

Reported by James Henderson, M.D., House Physician.

Sunstroke treated by Cold Bath, followed by Temporary Mania.

A. McG., æt. 51, labourer, of intemperate habits, was brought to hospital by friends at 2 p.m., July 27, 1892, complaining of headache, weakness and fever. Temperature in axilla $106\frac{2}{5}$°, and body burning hot. When seen in ward he was very restless, comatose, breathing rapid and stertorous, body rigid, with limbs extended. Was put in bath, temperature 78°, at

2.25	p.m.	Temperature	$106\frac{1}{2}$°	(axilla).	Pulse	160.
2.37	"	"	$105\frac{4}{5}$°	(rectum).	"	140.
2.47	"	"	$103\frac{2}{5}$°	"	"	120.
2.56	"	"	100^{8}°	"	"	100.

Was removed after 29 minutes, during which time temperature of bath was reduced by ice to 62°F. While in bath breathing became slow and quiet, rigid extension passed off, and limbs became flexed, but unconsciousness remained. Some urine drawn off was found normal. At 4 p.m., temperature 100°, pulse 80, and respirations 24. Began to recover consciousness at 6 p.m., and 38 ounces of urine was drawn from bladder; became quiet before 8 p.m, and slept fairly well all night, the temperature not rising above 100½° again.

July 28.—Remained quiet and still most of the day, became restless in the afternoon; was noticed by nurse to be queer. At 7 p.m. became more restless, insisting on getting out of bed. At midnight, given chloral and bromide āā grs. x, repeated at 2 a.m., but was restless and troublesome all night. Next morning he was found to be suffering from acute mania, and had to be removed to an isolated room. Here he remained in an active, busy delirium, with delusions, for 36 hours, not resting for a moment, although given three doses of chloral and bromide ā ā grs. xx, and at night sulfonal grs. xxx.

On the evening of July 30 he was induced to lie down, and soon went to sleep, and for the next 36 hours lay quietly sleeping, dozing or awake without attempting to rise. Has since been rational and quiet, and complains only of slight pain and lightness in the head.

Cases of sunstroke are comparatively rare in Montreal, but the weather for several days had been extremely hot and oppressive. The well-known action of the cold bath in reducing high temperatures was satisfactorily shown, and to it the man undoubtedly owes his life. Various forms of mental disturbance are known to follow sunstroke, and may even be permanent, but fortunately they proved only transient in this case.

Typhoid Fever, with Copious Eruption.

John W., aged 21, iron-roller, entered hospital July 22, '92. Was found to be in thirteenth day of an attack of typhoid fever. During first twelve days remained at home in bed part of the time, but up every day, and was twice at Montreal Dispensary.

Suffered from headache, weakness, diarrhœa and loss of appetite.

On entrance.—Had ruddy complexion, not extremely emaciated; lies comfortably in bed; tongue thickly coated; abdomen distended, but nowhere acutely tender; bowels somewhat constipated. Temperature 101°; pulse 80; respirations 24. Had a rose-red papular rash consisting of slightly raised, lenticular, uniform spots, averaging 2½ mm. in diameter, fading on pressure, and not appreciated by light palpation with the finger. This rash was abundant on abdomen, chest, back and buttocks; less abundant, but numerous, on forehead, arms and legs.

Several spots were marked, and were found to persist from three to five days, and a few fresh spots came out on areas of skin which were previously clear.

The disease ran a mild course, and the patient is now convalescent.

The case is of interest from the great number of spots present, and in their position on the face and limbs as well as the trunk. It also illustrates the fact that, unlike typhus, there is no relation between the copiousness of the eruption and the severity of the disease.

Hysteria in a Male; Spontaneous Hypnotism with Analgesia.

John S., aged 34, grocer, was brought in the ambulance to the hospital July 28, 1892, in an unconscious condition.

Examination.—Lay on his back in bed with arms and legs extended; eyes open, pupils somewhat dilated but equal, and reacted slowly to light; breathing quiet and easy; pulse 70; temperature 97°. No evidence of injury or paralysis of any part; no spasms or convulsions; legs were stiff and could not be bent at times. and he was quite anæsthetic all over body; urine drawn off was found to be normal in colour and to contain neither albumen nor sugar. Recovered consciousness (?) in about two hours; seemed quite rational, noticed surroundings, smiled, but could not move limbs nor speak, and remained deeply anæsthetic all over, no response being made when pins were driven into any part of the body. The corneal reflex was, however, preserved. Three hours after this patient recovered power of speech and of moving his limbs. Slept soundly during following night, and next morning was still anæsthetic to painful sensations in legs and arms ; some parts of the body were sensitive. Tactile sensation good all over, while that of heat and cold was indifferently marked in legs.

History.—Uses liquor very moderately. Had first fit when 15 years old ; lay in an unconscious and stiff condition for seven hours. Has had about seven since then, lasting usually a shorter time, but presenting the same features as the present. No neurotic history, and no history of epileptic attacks.

On admission, the patient's condition closely resembled one in the hypnotic state. The absence of paralysis, of albuminuria, and the dilated pupils at once led to an exclusion respectively of apoplexy, uræmia, and opium poisoning. The peculiar fixed and intelligent look, with speechlessness, in a patient lying quietly in bed, and without any evident disturbance of the various functions, was at once suggestive of hysteria, and this was confirmed by the sensory symptoms. Analgesia is the most frequent and marked sensory disturbance in hysteria, next comes the loss of the sense of heat and cold, and the tactile sense is usually preserved. It will be observed that in this patient the sensory symptoms presented these characteristics. It is now well recognized that hysteria is by no means an uncommon affection in the male, and it not unfrequently presents itself in the more marked forms.

Reviews and Notices of Books.

Annual of the Universal Medical Sciences. Edited by CHAS. E. SAJOUS and seventy Associate Editors. Five volumes. The F. A. Davis Co., Philadelphia, New York, Chicago and London. 1892.

This most useful Annual is as good a friend as ever, and as yet shows no sign of deterioration. It enables the busy man to keep abreast of medical progress in all its branches. It is well illustrated, and many of the editors write able monographs on the subjects over which they preside. No less than 2,166 journals and monographs are referred to. The Annual promises better things in the future, and does not intend to rest on its laurels. We do not see how any one who continues to be a student of medicine could do without it. We should like to see the references to the various journals placed in conjunction with the abstracts and not merely referred to by numbers, which have to be taken from a special list.

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Pelvic Inflammation in Women: a Pathological Study. By William Warren Potter, M.D., Buffalo, N.Y. (Reprinted from the American Gynæcological Journal, December, 1891.)

Hepatic Abscess; report of a case, with remarks upon the Amœba Coli. By Wm. A. Edwards, M.D., and James S. Waterman, M.D. San Diego., Cal. (Reprint from Pacific Medical Journal, March, 1892.)

Hysteromyomectomy, with a report of four cases. By Hunter Robb, M.D., Associate in Gynæcology to the Johns Hopkins Hospital. (From the Johns Hopkins Hospital Bulletin, No. 23, June, 1892.)

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, June 10th, 1892.

F. J. SHEPHERD, M.D., IN THE CHAIR.

Compound Fracture of the Skull.—DR. SHEPHERD exhibited a child who had received a severe compound fracture of the skull. On the 27th of April last, while driving with her parents, the horse shïed and the three were thrown out of the carriage, and the child disappeared down an open man-hole of the sewer. She fell a distance of fifteen feet to the bottom, striking her head against a ladder in the descent. Dr. Elder saw her and sent her to the hospital, where Dr. Shepherd examined her within half an hour after the receipt of the injury. There was found a large wound extending from a point just in front of the ear down to the eyebrow, and a large piece of skin was punched out; there was a depressed comminuted fracture of the skull, and some of the brain matter was oozing out. Two pieces of bone, about the size of a twenty-five cent piece, were removed, and the wound thoroughly cleansed; the torn dura mater was sewed with a continuous catgut suture, and the skin wound brought together as well as possible. The child made a rapid recovery, and has never had a symptom of paralysis; her speech has been unaffected and her mental condition unimpaired; in no way is she now different to what she was before the accident occurred.

Miliary Tuberculosis.—DR. FINLEY exhibited the organs from a case in which there were vast numbers of tubercles. They were seen throughout the lungs, liver, kidneys and spleen, and a few along the arteries at the base of the brain. In addition there were in the lungs several caseous nodules, situated in the lower lobes, and were probably the foci of the general disease, as the miliary tubercles in the neighborhood were larger and older than in the other portions of the lung.

DR. WILKINS saw the patient thirty-six hours before death. He was a man of thirty, and had been brought into the hospital in a delirious condition, with a history of having been ailing for two weeks with headache and diarrhœa. On examination there was tenderness and marked gurgling in the abdomen. Temperature, 101°; pulse, 120; respirations, 24. Although the temperature was lower than that usually seen in typhoid fever, Dr. Wilkins thought that the case might be one of those with low temperature spoken of by Dr. Atkinson at the recent meeting of the Association of American Physicians at Washington. He therefore thought that the cold bath could do no harm, provided friction was used, and ordered a bath for ten minutes, which the patient strongly resisted. Next day a rigidity of the neck, which had been previously noted, had become more marked. Temperature, 101°; pulse, 124; respirations, 20. No bath given. Patient died on the third day.

DR. FINLEY had seen the patient once, and found him profoundly prostrated and sweating profusely. The case was very anomalous, and he was unable to make a diagnosis. The respirations were never above normal, which is unusual when the lungs are so much involved.

Angina Pectoris, Acute Aortitis and Stenosis of Coronary Arteries.—DR. FINLEY exhibited the specimens for Dr. Ross. The subject was a large-framed, muscular man, aged 33, with slight œdema about the ankles. The heart was enlarged and flabby, weighing 415 grammes. The wall of the left ventricle was three-eighths of an inch thick, pale and somewhat soft, its cavity dilated, and measured 4½ inches in length, and the mitral orifice 4 inches. At the root of the aorta, extending above the valves for about 1 inch, the intima was much thickened and gelatinous-looking, and was sharply divided from the rest of the ascending aorta, which was healthy, by an irregular line. The orifice of the right coronary artery was greatly contracted, and the left was also considerably smaller than usual, whilst the vessels themselves were normal beyond the contracted orifice. The descending aorta presented a few gelatinous raised plaques. With the exception of two old infarcts in the spleen, the other organs were healthy. Microscopically the intima of the aorta was much thickened by an infiltration of small round cells, and there were also irregular patches of small round cells in the media. The striæ of the heart muscle were indistinct, and the fibres granular but not fatty. The liver showed slight pigmentation about the central vein. The small vessels of this organ and of the kidney were normal.

Dr. Ross said that the patient had been sent into the hospital to try and find relief for the very severe pain that he was suffering, the character of the pain being that of angina. The attacks had commenced some weeks previously, and were becoming very frequent. The pain always commenced in the bend of the left elbow, ran up the arm and thence to the heart, where it became very intense. The first attempt to relieve the patient was with nitrite of amyl, and was at first perfectly satisfactory, and he took great quantities of the drug for the relief of the very frequent paroxysms. Potassium iodide was then given in increasing doses without any result whatever. On examination the heart appeared perfectly sound and free from valvular disease. The diagnosis had been angina pectoris, and it was naturally supposed that this was due to disease of the coronary arteries, and the autopsy confirmed this opinion. There was found a stenosis of the inlets only, the walls of the rest of the arteries being perfectly free from atheromatous changes. Dr. Ross went on to say that he had noticed that some cases of severe angina are decidedly relieved by potassium iodide, while in others it has no effect whatever. When the anginoid symptoms occur in a person with valvular disease of the heart the relief produced by the iodide is very marked, while persons free from a valvular lesion seem not susceptible to its action. Lately he had been asked to see an elderly lady who was suffering from severe angina, accompanied by a distinct aortic murmur. She had been taking arsenic for some time and tablets of nitro-glycerine. He had suggested that this was a case for iodide, and she has been completely relieved by its administration.

Dr. McConnell asked if in the last case mentioned by Dr. Ross there had been any general arterial sclerosis.

Dr. Ross replied that she had hard radials, but there was no albuminuria and no definite appearance of a general arterial sclerosis.

Aneurism of the Descending Thoracic Aorta.—DR. HAMILTON exhibited an aneurism of the descending thoracic aorta which had burst into the œsophagus immediately behind the pericardium, about the level of the sixth vertebra. The stomach was found full of clotted blood. The vertebræ were not eroded and no signs of a left-sided pleurisy found. The man had for several weeks been complaining of dyspeptic symptoms, loss of appetite and difficulty of swallowing. No history of localized pain could be obtained. On the day of his death he had taken a slight dinner, and returned to his office, where he was found shortly after on the floor dead and covered with blood.

Mitral Stenosis.—DR. FINLEY exhibited a typical specimen of mitral stenosis, showing the funnel-shaped opening, with much hypertrophy and dilatation of left auricle.

DR. ROSS said that the patient had been admitted to the hospital suffering from old spinal degenerative changes. When first seen in March last there were signs of a cardiac lesion, a loud presystolic murmur, accompanied by a thrill, and it was diagnosed as a distinct mitral stenosis unaccompanied by any other lesion. Dr. Ross did not see the patient again until the end of April, when there was no murmur whatever to be heard, though repeatedly examined, and he (Dr. Ross) was under the impression that the former diagnosis had been incorrect, but the specimen shows that it was right. The case emphasizes the fact that the cardiac murmur disappeared altogether under the increasing weakening contractile force of the heart, and was not audible for many weeks before the man's death, and during that time no lesion could be recognized, except, perhaps, on careful percussion a slight enlargement might have been made out.

DR. MCCONNELL thought that in such a marked condition of mitral stenosis one would expect to find the pulse at the wrist almost imperceptible, and that this fact would help the diagnosis.

DR. ROSS did not think that any stress could be laid on the weakness of the pulse alone.

Chlorosis in a Male.—DR. JOHNSTON gave some notes on the examination of the blood of a man who was intensely anæmic, with a sub-icteroid hue. The number of red and white corpuscles were found to be normal, but the hæmaglobin was reduced one-third. The case was one of pure chlorosis, which is quite a rare condition in a man. The man had been ailing for a year and a half, and had suffered severely from hæmorrhoids. After using ten Bland's pills daily for a week, the hæmoglobin rose from 30 to 55 per cent., and at the end of the second week it was over 70 per cent., when he was lost sight of. He was a day laborer, and his occupation offered no clue as to the cause of the chlorosis.

A Case of Imposture.—DR. WILKINS said that three weeks ago a man had been brought into the General Hospital suffering from tetanic spasms of the head and neck. A history of having cut his foot with broken glass, two or three weeks before, was given. On examination there was found a good deal of stiffness of the neck and a spasmodic action of the muscles of the face and slightly of those of the arm. A scar was found on the foot which he stated had been cut. Though the appearance was peculiar, the condition was thought to be tetanus, and carbolic acid ♏ ½ every two hours was ordered, and under this treatment the spasms seemed to improve. Next day a consultation of surgeons was held, when it was suggested that if the spasms were not relieved a part of the foot should be amputated. This produced a marked improvement. Becoming dissatisfied with the hospital, he was removed to a private hospital, where the spasms were of a different character. He was later on removed to his boarding-house, where he behaved in a peculiar manner. Dr. Finley saw him, and asked for Dr. Shepherd in consultation, who thought that it was a case of imposition. Next day the man disappeared and has not been heard of since.

Selections.

Craniectomy for Double Optic Neuritis with Microcephaly. (By Shalders Miller, F.R.C.S.) —The case here reported was one presenting such severe symptoms, and the treatment was so promptly followed by relief, that early publication may perhaps be justified without waiting for the further improvement which may reasonably be looked for. The patient was a boy, eight months old, microcephalic and exhibiting double optic neuritis; the resulting blindness being the cause of his parents seeking treatment for him at the Western Ophthalmic Hospital. The spine and limbs were almost constantly extended and rigid, the thumbs were strongly adducted and the fingers firmly flexed over them; the legs also were tightly adducted, the right being crossed in front of the left. There was consequently much trouble in washing the child properly. The genital organs were somewhat peculiar, the penis being very small and retracted, so that only empty foreskin presented, but there was no phimosis; the right testicle was absent from the scrotum and canal, while the left was just outside the external abdominal ring. The urine was never projected in a stream, but dribbled away. There was very marked nystagmus and convergent squint, and the eyeballs were deeply drawn into the orbits, giving the child an aged and pained expression. Ophthalmoscopically there appeared severe optic neuritis and atrophy in both eyes, with some patches of choroidal pigment in the right. Though the pupils were dilated with atropine, the nystagmus prevented the possibility of making anything like an exact drawing of the fundus oculi. Vision was manifestly reduced to a mere peroeption of a strong light; the eyes never resting on any object. Swallowing was generally easy, but the child's attention had to be excited by moving the bottle-nipple about between the lips before sucking movements were initiated. When the legs happened not to be firmly extended, the knee-jerk was readily produced. The facial bones were well developed, the lower middle incisors were well through the gums, and all the cranial sutures were completely ossified, no trace of a fontanelle being detectable. The mother stated that there was no soft space on the head at birth. The child had been born with the aid of forceps, which had not in any way marked the head or face. The coronal edge of the frontal bone was thick and raised above the parietals, and the left parietal bone was distinctly flatter than the right. All bony eminences on the cranium were but slightly marked, and the forehead was receding. The circumference around the upper margins of the orbits and the occipital protuberance was 15⅝ inches, which is about the average measurement for a child of four months, that is, half the age of this child. The frontal eminences were only one inch from centre to centre; the forehead therefore was extremely narrow. The child was very strongly built, very restless, cried a good deal, was constipated habitually, but seldom sick. It displayed very little intellectual activity.

On March 21st, 1892, the head was shaved, and an antiseptic dressing put on. On the evening of this day the child was very nearly asphyxiated owing to ataxic deglutition. On the next day a linear craniectomy was performed. The chloroform was skilfully administered by my friend, Dr. Hulbert of Windsor. This was no easy task, as the child's pulse was ordinarily irregular in force, and shortly after the operation was begun pulsation at the wrist quite ceased, but was restored by applying a large hot antiseptic sponge to the head, as recommended by Mr. Victor Horsley, and inflating the chest with oxygen from one of Brin's cylinders. This proceeding had to be repeated once or twice, but as more and more bone was removed the pulse continuously improved till, at the end of the operation, it was strong and perfectly regular in force and rhythm. The length of the bony excision was a little over three inches, beginning in front at the inner side of the left frontal eminence, and extending backwards parallel to the sagittal suture. The opening was one-half inch wide, and from each end of its outer edge a short branch cut was made with gouge forceps, so as to leave the outer boundary of the bone wound in the form of a projecting flap unsupported at its two ends, thus allowing of some subsequent eversion by the brain pressure. The periosteum was removed from the whole area of the intended bone wound before using the trephine with which the osseous section was commenced, all the rest of the bone being cut away with forceps. The hæmorrhage was very slight, being mainly venous oozing from the dura mater, as that was separated from the superjacent bone. No vessels were tied. The scalp was replaced, and fixed with seven or eight silver sutures. The child made an uninterrupted recovery, union of the scalp taking place throughout by first intention. The temperature, taken always in the rectum, never exceeded 100° F., reaching that on only three occasions, and was promptly reduced by incising the upper front gums; the corresponding teeth at once appeared, and grew freely. The child took each night a powder containing hydarg, c. cretâ gr. j, sodii bicarb. gr. ij, and sodii bromid. gr. ij. The spastic condition of the limbs diminished from the time of the operation, and it was observable that on the day after there was no spasm at all in the right arm and hand, while a little remained for three or four days in the left. In a week both testicles were well down in the scrotum, the penis had emerged from its concealment, and the urine was projected in a vigorous stream. Some of the sutures were removed on the eighth day, and the others, one or two daily, till the eleventh day, when the child left the hospital completely healed. During this time the sight appreciably improved, the child noticing a hand in a good light; all nystagmus and squint disappeared, the eyeballs came forward in the orbits, and the little patient assumed the natural expression of a baby. Sucking and swallowing were prompt and spontaneous. Five weeks after the operation, the circumference of the head, at the same level as before, had increased to 16 inches exactly, that is to say, a gain of three-eighths of an inch, but the distance between the centres of the frontal eminences had increased by nearly half an inch. A few days later still the child was able to stand, holding on by its hands to the upright bars of a nursery fender. The vision had further improved, as evidenced by the child's following with its eyes any distinct objects moving about, and the intelligence had so increased that the little patient laughed like any other baby when played with and talked to after the manner of mothers and nurses. The child was seen again on May 18th, 1892. The vision then was apparently still more acute, the intellectual activity greater, and the general health excellent.—*Brit. Med. Journal*, July 23, 1892.

Venomous Snakes of the United States.—In the *Trans. Southern Surg. and Gynæcolog. Association*, 1891, Dr. Barringer, of the University of Virginia, presents an interesting article upon this subject. Among the many privileges which this great country enjoys is that it is comparatively free from poisonous snakes. Nine-tenths of our snakes are destitute of fangs and poison-bags. Their bite is dangerous only in proportion to the toxic effects of the whiskey given to the patient by alarmed friends. Among the poisonous snakes, the rattlesnake, the copperhead and the water-moccasin have established a reputation for deadliness of venom which is unquestioned. The first of these three is sluggish, the second extremely agile, the third malicious. The venomous qualities of the *elaps fulvius* are, on the contrary, not generally recognized. This beautiful little snake, commonly known as the harlequin snake, bead snake, or coral snake, is the sole American representative of the *cobra* family, and is found from Virginia to Texas. It is from 16 to 20 inches long, of a blue-black color, with brick-red and yellow bands, and its tail barred with yellow. It is gentle and will often bear handling without biting. Weir Mitchell has stated that it is not poisonous, but it has fangs, and Dr. Barringer reports a case where a man died in eighteen hours from its bite. Our poisonous snakes, apart from the *elaps*, have pits between the eye and nostril, and one or more of the ventral plates behind the anus undivided. As secondary marks we may note the elliptical vertical pupil, the triangular head, narrow neck and blunt tail. Healthy snake venom contains no bacteria. Dr. Barringer finds death in less than 10 per cent. of rattlesnake, and 1 per cent. of copperhead bites. He has not learned of any deaths from the moccasin snake-bite. The best protector against snakes is the hog. The bear, being the foe of the hog, is the patron of the snake. In case of snake bite apply a tourniquet, cut open the wounds till they bleed, and suck or cup them. Inject a 10 per cent. solution of potassium permanganate or a strong solution of liquor potassæ into the wound. Give whiskey freely, and keep the nervous centres working with hypodermics of $\frac{1}{30}$ to $\frac{1}{20}$ grain of strychnia. Loosen tourniquet periodically to prevent gangrene. Such loosenings admit the venom little by little into the system, and this must be met again by alcohol and strychnia. After 5 per cent. of snake-bites chronic septicæmia with nerve disorders occurs, because of the presence of septic bacteria in the saliva of the snake left from its food. These germs flourish in the mouth mucus of the snake, which is so abundant in the copperhead as to give it the popular name of the "cotton-mouth" snake.

The moral of it all is: Spend your vacations in districts, such as the Adirondacks, which are too far north for snakes, or else wear protective leggings.—*Maryland Med. Journal.*

Apples as Medicine.—Chemically, the apple is composed of vegetable fibre, albumen, sugar, gum, chlorophyl, malic acid, gallic acid, lime, and much water. Furthermore, the German analysts say that the apple contains a larger percentage of phosphorus than any other fruit or vegetable. The phosphorus is admirably adapted for renewing the essential nervous matter, lecithin, of the brain and spinal cord. It is, perhaps, for the same reason, rudely understood, that old Scandinavian traditions represent the apple as the food of the gods, who, when they felt themselves to be growing feeble and infirm, resorted to this fruit for renewing their powers of mind and body. Also, the acids of the apple are of signal use for men of sedentery habits, whose livers are sluggish in action, those acids serving to eliminate from the body noxious matters, which, if retained, would make the brain heavy and dull, or bring about jaundice or skin eruptions and other allied troubles. Some such an experience must have led to our custom of taking apple sauce with roast pork, rich goose, and like dishes. The malic acid of ripe apples, either raw or cooked, will neutralize any excess of chalky matter engendered by eating too much meat. It is also the fact that such fresh fruits as the apple, the pear, and the plum, when taken ripe and without sugar, diminish acidity in the stomach rather than provoke it. Their vegetable sauces and juices are converted into alkaline carbonates, which tend to counteract acidity.—*Medical Age.*

Microbes Found in Patients Having Small-pox.—This was the subject of a very interesting communication to the Société Médicale des Hôpitaux by M. Le Dentu, surgeon of the first class in the naval service. The doctor is attached to the Ecole du Service de Santé, in the navy at Bordeaux, and has long been engaged in experiments in microbiology. His conclusions are given as follows in the *Gazette Hebdomadaire :*

1. In small-pox death seems due most frequently to the general development of the streptococus in the organization.

2. The streptococus is found in the viscera, sometimes in an uncombined state and sometimes associated with rare colonies of other microbes—most frequently with the staphylococus.

3. When the system is under the influence of small-pox the streptococus acquires great virulence.

4. Small-pox, however light it may be, will always be a very grave affection if it be developed in a system already occupied by the streptococus.

5. As treatment, the system must be preserved from invasion of the streptococcus.

In twelve autopsies on cases that died of small-pox, streptococcus were found eleven times in the culture. In the living subject M. Le Dentu was able to discover, by means of puncture of the liver, the presence of streptococcus in two cases of confluent small pox. He has observed that the colonies of streptococcus become more numerous as death approaches. In conclusion, M. Le Dentu suggests a limit to the conclusions that might be drawn from the facts given, and thinks that it may be found in cases in which the streptococcus infects only a particular locality in the system.—*The Sanitarian.*

Poisoning by Bromoform.—A case of bromoform poisoning is reported by W. B. Platt as occurring in a patient treated at the Garrett Dispensary for Children in Baltimore. The case was a three-months old baby, strong and fat. He was suffering from pertussis, and was given a mixture containing 2 minims of Merck's bromoform and 10 minims of whiskey in each drachm This was made up with equal parts of syrup and water. Fifteen days later the poisoning occurred. All went well until the last dose in the bottle was taken, which was not quite one teaspoonful. Half an hour after taking it the child was noticed to be weak in his limbs, and rapidly became limp and unconscious. Treatment was instituted one hour after the dose was taken. The stomach and intestines were washed out. Ammonia was given and cold cloths applied to head without restoring consciousness, although respirations and pulse improved. A sheet was then dipped into hot water and wrapped about the thorax and upper abdomen, with almost instant effect, and within three-quarters of an hour from the beginning of the treatment the child had quite recovered. It is impossible to say whether it was the cumulative effect of the drug, or whether the mother had given too large a dose; or, again, it may have been that the bromoform had separated from the mixture, and in this way too much had been given.—*Times and Register.*

New Method of Searching for Tubercle Bacilli BY M. SOLLES.—The tissue for examination is cut into small pieces; these are placed for twelve hours in absolute alcohol, then in ether, and finally in collodion. Sections are cut, which are stained by the following:

1st.	Distilled water,	100.	2nd.	Distilled water,	100.
	Prussian blue,	1.		Gelatine,	1.
	Oxalic acid,	0.20.			

Mix these two solutions. The colouring solution penetrates the tissues and stains all the anatomical elements except the bacilli. The author has by this method demonstrated the existence of the spores of the tubercle bacilli; further, he has observed that the microbe is *leucophagous*—that is, that it destroys the leucocytes —*Repertoire de Pharm.*

Illumination of the Stomach.—Renvers (*Münch. med. Woch.*, April 12, 1892) recently demonstrated to the Berlin Medical Society an apparatus which consists of a small Edison lamp fixed to the end of a bougie and covered by a small glass case filled with water. The electric current is obtained from a battery of twenty cells. If the stomach is full of blood, illumination is impossible; but if it is quite full of water when the lamp is passed into the stomach, an illuminated area is seen which corresponds exactly to the limits of the organ. The apparatus can only be used in the erect posture, when the greater curvature is usually seen a little below the level of the umbilicus. Abnormal dilatation of the stomach can be readily detected, and a case of carcinoma of the organ has been diagnosed by the use of this apparatus, the diagnosis being confirmed by post-mortem examination. The tumour appeared as a dark spot in the light field.

Mechanical Treatment of Chronic Constipation.—Dr. Feilchenfeld of Berlin believes that by means of a forcible and equal compression of the abdomen considerable improvement may be obtained in cases of constipation, particularly when the intestine is meteorised. The compression first reduces the volume of intestines and then excites the intestinal muscles to vigorous contraction. Possibly this compression stimulates the nervous plexus in the muscular coats. On this account Feilchenfeld has employed the following method in constipation accompanied by meteorism and relaxation of the walls of the intestines. A cushion is made containing three or four pounds of shot spread evenly between layers of wadding; it is so adapted to the shape of the abdomen that it exercises an equal and vigorous pressure. These cushions are placed on the abdomen morning or evening, or even during the whole night, and held in place by tapes. Usually an hour or an hour and a half of this application suffices to bring about a motion of the bowels. During the past year fifteen patients have been treated in this way, all of whom are cured. It is enough to employ it for half an hour before rising in order to obtain an excellent result. In some cases of constipation with hæmorrhoids, without tympanites, regular action of the bowels was obtained. No doubt the pressure on the abdomen has a beneficial action on the turgid veins of the intestine.—*Jour. de Méd. et de Chir.*

Gum-Lancing.—Dr. H. C. Wood, in a letter to the *University Medical Magazine*, expresses his hearty concurrence with a recent editorial in the *Dental Cosmos*, in which the editor, Dr. E. C. Kirk, criticises the condemnation of gum-lancing by Forchheimer in his book on "Diseases of the Mouth in Children," as a therapeutic measure for the relief of various conditions. Clinically, Dr. Wood is absolutely sure that he has seen convulsions, sick stomach, great restlessness, fever, and various other functional disturbances in young children, immediately cured by the use of the gum-lancing, after failure of various other well-directed measures for relief. Theoretically, he is in accord with Dr. Kirk in believing that Forchheimer absolutely misses the point of the matter by his failure to understand that the good achieved is not due to the local blood-letting or to the relief of the inflammation of the gum, but to the removal of the backward pressure upon an extraordinarily sensitive, and, at such times, congested nerve-pulp. As was long ago pointed out by Dr. J. W. White, at the period of eruption the roots of the teeth are yet incomplete. "Instead of the conical termination and minute foramen which characterize a perfected tooth, the aperture is nearly as large as the root itself, and thus when the sensitive pulp, composed of connective tissue, blood-vessels and nerves, is in a condition of irritation because of the morbid activity of the process of dentition—augmented vascular and nervous action—there may be produced a hyperæmia sufficient, possibly, to cause the protrusion of a part of the mass from the incomplete aperture of the root, giving abundant cause for extreme constitutional disturbance." Dr. Wood has seen a seemingly incurable epilepsy in an adult permanently cured by the removal of a persistent milk or first dentition tooth. Amaurosis and various other conditions in the adult are well-known to be the result of irritation of the trigeminal nerve by faulty teeth. How much more evil is to be expected from tooth irritation in the child! Whatever the theory in the matter may be, he is positive that gum-lancing is a most important therapeutic measure. It is essential, however, that it should be thorough, and with the object of dividing the dense tissues that bind down the teeth.—*Boston Med. and Surg. Journal.*

Laparotomy Under Cocaine. (By Emory Lamphear, M.D., Ph.D., Kansas City, Mo.)—When admitted the patient was *in extremis*—cadaverous, weight less than 80 pounds, and at the gate of death from starvation. Upon the evening of admission the abdomen was carefully scrubbed and shaved and a pad of moist bichloride gauze applied. On the following day a gastrostomy under local anæsthesia from cocaine was performed. One-half drachm of a 4 per cent. solution was injected in eight places into the subcutanuous areolar tissue along the proposed line of incision. As soon as the analgesic effect was established the usual operation was made, and without any pain or even sense of discomfort on the part of the patient. The only disagreeable symptom was a slight nausea when the left lobe of the liver was turned up to allow the stomach to be drawn up into the wound. The operation lasted twenty-two minutes.

How much longer the operation might have been prolonged without discomfort to the patient is a question of interest. But as a large number of the abdominal operations can be made within twenty minutes, it is not so important as might at first be supposed. Besides the fact that the primary depressant effect of a general anæsthetic was avoided by the use of cocaine, there were two other points of much importance in this case, viz.: the absence of vomiting that nearly always follows chloroform or ether, and especially the *absence of shock*. There was a total absence of anything like shock, and if this be found to be a general rule an immense gain may be made in sewing up stab or even gunshot wounds of the intestine (as well as in other numerous abdominal operations), by the use of local instead of general anæsthesia.—*New England Med. Monthly*, June, 1892.

Treatment of Chancroids with Phimosis.—Cordier recommends the following treatment of chancroids concealed beneath a phimosis, congenital or acquired :—(1) Wash out beneath the prepuce with a solution of boracic acid ; (2) inject a saturated solution of chloride of zinc (50 parts of zinc chloride in 40 of distilled water) beneath the prepuce, and allow it to remain at least one minute, but not more than two ; (3) wash with boracic solution and circumcise. By this method union by first intention is obtained.—*Lyon Médicale.*

Fehling's Solution with Glycerine.—The use of glycerine to preserve Fehling's solution is not a novelty, and has been already recommended by various authorities. M. Rossel has again brought up the subject in a communication made to the Société Clinique de Berne ; he replaces all the tartrate of potash and soda by glycerine according to the following formula :

Sulphate of copper (pure),	34 gr. 56.
Glycerine (pure),	150
Caustic potash,	130
Distilled water, q.s., to make 1000 c.c.	

We thus obtain a liquid, 1 c.c. of which corresponds to 5 milligrammes of glucose, and which is stable in proportion as the glycerin and the potash are pure.—*Bull. de la Soc. de Pharm de Bordeaux.*

Salt as a Preservative.—On the 3rd of July, 1890, near Hermannstadt, in Transylvania, after an earthquake, the shaft of a disused salt mine suddenly became filled with brine to within 20 metres of its mouth. On the surface several corpses were floating supported by the planks and beams which had formerly supported the walls of the mine. Of these, six were brought to the surface and were found to be intact. One was the body of a man who had committed suicide by jumping into the mine three years before. The others were the bodies of soldiers who had fallen in a battle on Feb. 4th, 1849, during the fight for the independence of Hungary. As the ground was deeply frozen at that time 300 bodies were thrown into this mine which had not been used since 1824. The bodies were in excellent preservation, and, except the loss of the hair and eyeballs resembled anatomical subjects preserved in alcohol. The skin was intact, the mucous membranes colored, and the viscera unchanged, the aorta still being perfectly elastic, and the course of the wounds could be studied without difficulty. The tissues and the viscera were filled with little saline concretions. H. Koenig, who performed the autopsies proposes to use this water instead of the more costly alcohol for preserving anatomical specimens. The water contains, besides the chloride of sodium, the chlorides of magnesium, potassium and calcium, the iodide of sodium and the sulphates of soda and calcium.—*Wien Med. Blaetter.*

Treatment of Insomnia.—Collins (*Journal of Nervous and Mental Diseases*, July, 1892) says, in summing up a paper on this subject: Without entering into detail in respect to each case treated, it seems that the following conclusions can be drawn:

1. Chloralamid is a safe and one of the most reliable hypnotics.
2. It is not ordinarily followed by distressing after-symptoms, particularly headache.
3. It is especially valuable as a hypnotic where pain is a prominent factor, but not violent.
4. In cases of insomnia, where there is excessive activity of the brain, it is also useful.
5. On account of its stimulating activity on the respiratory function, it is the hypnotic *par excellence* in nervous exhaustion, associated with an asthenic condition of respiration and symptom complex indirectly dependent on this, brought about by defective oxidation and the formation of unstable chemical compounds in the system.
6. On account of its very slight action in depressing the circulation, it can be given in diseases associated with a weak heart, with greater safety than most of the other hypnotics, not excepting chloral itself.

7. It is conveniently administered in the shape of an elixir, and this overcomes the need of dissolving it.

8. Its dose is from one to three scruples, administered one hour before sleep is desired, and this should not be repeated within two hours, for occasionally the action of the drug is delayed.

In contrast with sulfonal, there is much to be said in favour of each. Sulfonal is also an excellent hypnotic, and has, as is noted by Francisco, when taken in two-scruple doses, an action in strengthening the systole and increasing the tone of the vessels in general. But this action on the vessels is not continuous, and after a variable length of time it is followed by a dilatation and lessening of the elasticity of the vessels, first on the cerebral and then on the peripheral. And here, probably, is the explanation of the tendency for sulfonal sleep to go over into the next day, when it loses some of the characters of natural and tranquil sleep which are attendants of the sleep produced by smaller doses. Sulfonal, when given in moderate doses, however, does not cause any injurious effects on the circulation, respiration, appetite, digestion, temperature, or on the general health.

Evidences of Heredity. (By Wm. C. Krauss, M.D.)—Neurologists in the practice of their specialty are perhaps able to produce stronger evidences to the support of the theory of heredity than any other class of professional men. That the nervous system is intimately associated with this process of transmission, no one will deny, and some observers go so far as to classify such affections as tuberculosis, cancer, etc., among the neuroses, because of their hereditary transmissibility. I have lately had occasion to observe a family in which heredity played such an important rôle that I think the case worthy of being recorded.

Having been called to see a child suffering with cerebro-spinal meningitis, I learnt that the mother, who possessed a very small head, had lost three children previously with cramps, and, furthermore, that all had enormously developed heads. The child in question was also macrocephalic, and this led me to make a thorough investigation. The father, a tailor, aged 36 years, although in good health, has been annoyed much of late with lung difficulty, which I surmise is of tubercular origin. The apex of the right lung shows signs of beginning consolidation, with moist crepitant râles, and the respiration is broncho-vesicular in character. Of his parents and grandparents he knows but little, having immigrated to this country when quite young. The mother's parents are still living and healthy. Out of a family of eleven children, six died with "cramps," one of croup, and four are living. The mother's history is as follows:

Age, 27; height, 4 feet 11 inches; weight, 110 lbs.; complexion, fair: hair, brown; disposition, petulant and fractious; intelligence is much below mediocre. Early history; She had considerable trouble at dentition, otherwise has always been in the best of health; menstruated when 13 years old, and married at 19. Her present appearance is at once conspicuous, owing to the small size and slope of her head. The face, rather broad, offers nothing unusual. The two sides are symmetrical, the eyes, ears, lips, cheeks and nose are well developed, and perform their various functions without any disturbance. The forehead is elongated, somewhat triangular in shape. The head is moderately large just above the neck, then tapers cephalad, becoming pyramidal—a malformation sometimes called oxycephalus or sugar-loaf head. This anomaly, generally met with in idiots, epileptics, etc., is due to a premature union of the parietal with the temporal and occipital bones. The measurements taken a few days ago are as follows: Circumference, 48 centimetres; occipito-frontal, diameter, 14; bitemporal, 13; biparietal, 13; occipito-mental, 20½; sub-occipito bregmatic, 16. With the exception of the head, the rest of her person does not deviate from the normal. Married in 1884, she has given birth to five children.

The first child, a boy, was born March 25, 1884, after a comparatively easy labour. The child's head was exceedingly small as compared with the rest of the body, and as a member of the family remarked, it was "no larger than an apple." Otherwise the child was well developed, nursed well, slept well, until the latter part of June, when its head began to increase rapidly in size. In July, 1885, it was taken with convulsions, and died twenty-four hours later.

The second child, a boy, was born March 25, 1886, after another easy labour. Its head was also very small, otherwise it was well developed, and was in good health until the first appearances of dentition, when the head began to grow rapidly in size, terminating in hydrocephalus. In February, 1887, it was seized with convulsions, vomiting, head thrown backward, and, three days before death, became unconscious. It died February 13, 1887. The physician's diagnosis was "hydrocephalus with cerebro-spinal meningitis."

The third baby, a boy, was born September 3, 1887. The labour lasted but two hours, and the child appeared well developed except its head, which was likewise very small. About dentition time the head became macrocephalic, and in April, 1891, it died, exhibiting all the symptoms of a basilar meningitis. The circumference of the head after death was 64 centimetres. Although 3½ years old, he could neither walk, talk, nor sit alone, and showed unmistakable signs of arrested cerebral development.

The fourth child, a girl, had a history similar to its predecessors; microcephalus at birth, becoming hydrocephalic at dentition, and dying in convulsions on May 2, 1891.

The fifth child, a girl, was born August 5. 1890. Its head was even smaller than any of the preceding children, and remained so. In February she began to emaciate, her body and extremities being reduced to a mere skeleton. In June, 1891, she died with cramps.

None of these children appear to have had enlargement of the bones, joints or glands, and the lungs seemed to have been in good condition. To review the case briefly, then, we have here a family of five children, microcephalic at birth, dying in convulsions before dentition, or else becoming hydrocephalic at this time and dying of meningitis, probably tubercular in character, later on. The father of this family has a history of tuberculosis; the mother, a microcephalus, offers symptoms of cerebral degeneracy. To my mind a soil more fertile for the propagation

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(See his article in the MEDICAL RECORD of February 27, 1888, on "*Ecchondroses of the Septum Narium and their Removal.*"

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of neuropathic and physchopathic tendencies cannot exist. Being convinced of this fact, I informed the parents whose home had been made desolate by the mysterious but all-wise treatment of nature, and counselled them to live henceforth, if not a virtuous, then a sterile life.—*Journal of Nervous and Mental Disease*, July, 1892.

Why Must we Sleep ?—The theories of sleep are manifold. In this age of insomnia, when the consumption of hypnotics is phenomenal, a consideration of the cause of sleep is a step toward the intelligent treatment of insomnia. Dr. M. Emanuel Rosenbaum of Berlin has recently published a work on "A New Theory of Sleep," and an interesting *resumé* of his opinions appears in the *British Medical Journal*, June 25, 1892. Dr. Rosenbaum, with Germanic thoroughness, quotes the views of philosophers from Alkmaon, who lived 2,500 years ago, down to Dr. Preyer, who seems to be the latest authority on the nature of sleep. Most of these opinions are guesses pretty wide of the mark, and it is only within a few years that we have arrived at any real additions to our knowledge on the physiology of sleep. A state of intermittent repose is probably common to all organized beings. The acacia, which folds its primate leaves at sunset, may be said to sleep. This condition is, of course, more distinct in animals, which possess a nervous system. Sleep seems to involve, to a certain extent, the spinal cord as well as the brain. Goltz succeeded in removing almost the whole cerebrum of a dog, and keeping it alive for fifty-one days. He found that in this animal alternations of rest and unrest succeeded one another; before the time of feeding the dog was restless, when fed he became quiet and fell asleep. He could be waked by touching any part of his body. Dr. Rosenbaum tells us that pigeons deprived of their hemispheres appear to fall asleep periodically. It was long a subject of discussion whether, during sleep, there was more or less blood in the brain than in the waking condition; but it is now generally admitted that during sleep a portion of the blood deserts the brain, being probably replaced by the arachnoid fluid. In cases in which a portion of the skull has been removed, or in the trephined animal, the brain is observed to sink during sleep.

Congestion of the brain carried to a certain degree causes stupor; but what distinguishes stupor from ordinary sleep is the lightness with which the individual passes from the somnolent into the waking state. We cannot get rid of the effect of cerebral congestion, or rouse ourselves when under the effects of a narcotic; but we drop asleep in a moment, and a touch or a word in the ear can at once recall us from the realm of Morpheus to that of waking reality. What is the nature of this mysterious change which daily affects us, and which we have ceased to wonder at, because the riddle has so often baffled us? To dispel our ignorance Dr. Rosenbaum presents us with a new theory. He observes that all organized tissues in active function have alternations of energy and rest. The heart, which keeps beating while life lasts, has its pauses, during which it repairs its waste. Vital action does not run on till its materials are exhausted; but there comes a period when it stops to renew its power, and then it begins again. Dr. Rosenbaum observes that the brain remains in function during the waking state, and repairs its losses during sleep. Sleep is owing to the used-up material in the nerve tissues being replaced by watery fluid. The greater the watery contents in the nerve tissues, the less is the irritability, until there is absolute loss of function. This increase of watery contents follows the chemical changes of nerve substance which take place during and after nervous activity. This water which replaces the nerve substance is expired through the lungs in the form of aqueous vapour principally during sleep. The absorption of the water into the venous current happens according to the laws of diffusion, and is dependent upon the volume and thickness of the blood, its relation to the solids, and the rapidity of the circulation. The giving off of these vapours through the lungs is dependent upon the laws of diffusion of gases, the pressure of the air, and the amount of water it already contains. Dreaming and sleep walking are dependent upon the unequal quantity of watery fluid in different parts of the brain.

Dr. Rosenbaum seeks confirmation of his views by the observation that people are more disposed to sleep when the air is saturated with moisture, and that children who sleep a great deal have more water in the tissues of the brain. He cites the observations of Schiff and Harless that the excitability of nerves is diminished by an increased absorption of water into their substance, and seeks to show that in the diseases in which there is a marked tendency to lethargy or coma the nervous substance becomes softer and more watery in consistence. Here it may be observed that loss of function might be expected to follow the replacement of the normal material by any other element, whether fluid or solid, and that, in fact, we have a tendency to sleep or increasing stupor with hardening of the brain when the fluid which replaces shrinkage is deposited under the membranes on the outside of the nervous substance.

Dr. Rosenbaum's theory does not help us to explain hypnotic sleep or hibernation, and, in spite of his laboured arguments about the nature of the changes and decompositions in the organism, his theory lacks proof. Dr. Rosenbaum even ventures to answer the celebrated question of Molière: Why does opium cause sleep? It is because it acts upon the respiratory centres, and thus diminishes the number and depth of the respirations. This causes œdema of the brain and increase of its watery contents. We may ask, Why does opium act upon the respiratory centres? and unless Dr. Rosenbaum can answer this he will have to fall back upon the famous "explanation": "Quia est in eo virtus dormitiva cujus est natura sensus assoupire."

After all, science can scarcely explain the why of anything. It merely points out the order in which natural processes occur. Preyer holds that sleep is caused by the products of decomposition, lactic acid and creatin, taking up the oxygen in the blood. The functions of the grey matter of the cortex cannot be exercised without a plenteous supply of arterial blood any more than the zinc and copper of a voltaic pile will evolve electricity without the sulphuric acid. Thus the blood conveys a stimulus or imparts a capacity to the nerve tissues during waking, while during sleep it has a separate and distinct function—that of repairing waste. Apparently these two processes cannot go on in the brain at once, or at least only to a degree too limited to prevent a speedy exhaustion of the vital powers if sleep be withheld. There is a striking disparity in the time required for sleep by different persons. Some men, like the Emperor Akbar, St. Francis Xavier, and General Eliot, the defender of Gibraltar, could do with as liitle as four hours' sleep, while other men need ten hours or even half the twenty-four. But all must sleep. A cruel form of capital punishment in China consists in artificially keeping the culprit awake till he dies from exhaustion.—*Medical Age.*

Tetanus Due to Puncture of a Hypodermic Needle.—Lieutenant H. B., aged 24, single, consulted me on October 12th, 1891. He complained of slight pains in the limbs, head and back, and a feeling of general *malaise*. He had contracted syphilis five months before, and was still under treatment for that affection. Temperature was normal and pulse 80 ; there was slight stiffness of the muscles of the neck. The next morning there was increased pain and stiffness about the neck, and also the lower jaw and abdomen, difficulty in protruding the tongue, and slight "risus sardonicus." The temperature was 98.6°, pulse 104. He denied the existence of a wound or sore anywhere. He was ordered full doses of chloral hydrate and morphine. Towards evening all the symptoms were more developed. The temperature was 98.4°, and the pulse 104. On October 14th the tetanic convulsions were very frequent and there was marked opisthotonos. The temperature was 98.1°, and the pulse 98. On October 15th the temperature was 99.3°, and the pulse 112. I received a letter from a friend of the patient stating that he (the patient) was in the habit of injecting morphine hypodermically. I found a small suppurating sore near the right shoulder ; the patient admitted that this was due to the puncture of the hypodermic needle. On October 16th the spasms were less frequent ; the temperature was 98°, and the pulse 120 and feeble. On the following day there was great difficulty in swallowing. Spasms were very frequent, the temperature was 98.1°, and the pulse 100. On October 18th, at 4 A.M., a severe laryngeal spasm came on, and, as death was imminent, I at once performed tracheotomy ; this gave instant relief. Later in the day, however, convulsions again became severe, and at 5P.M. the patient died apperently from cardiac and diaphragmatic spasm.

In the absence of any history of a wound I was at first puzzled as to what was the cause of the tetanus, but the patient admitted afterwards that he was in the habit of taking morphine hypodermically ; he was ashamed to do so until questioned. The wound near the shoulder was inflamed and suppurating, and about the size of a threepenny piece. I do not know of any previous case published of tetanus due to the puncture of a hypodermic needle ; for this reason I think it is worth recording ; it should impress upon us the necessity of the most scrupulous cleanliness in the performance of even such a simple operation as this. Another peculiarity about the case was the remarkably low temperature, subnormal during the greater part of the illness.—*Cecil A. P. Osburne in British Medical Journal.*

Oatmeal Pyrosis.—The author of the *Asclepiad*, Dr. Benjamin W. Richardson, says in a recent number of that publication :—

" An obstinate case of pyrosis came under my care some years ago, and resisted all forms of medical treatment. The dietary of this patient, an orderly and temperate man, seemed to call for little supervision ; in fact, I never remember to have had under my care any one who was simpler or more methodical in the way of feeding and drinking. I recommended him to leave off tea, and he obeyed, but with no beneficial result. Coffee was withdrawn, with no better result. The patient was an abstainer from alcohol aud did not smoke, so reforms were not called for in those directions. For a time he left me and consulted another physician, I believe more than one, but after a few months he returned, complaining of the continuance of the symptoms that so oppressed him. He really suffered acutely. Each morning, between breakfast-time and luncheon-time, the water-brash came on. The quantity of fluid ejected from his stomach was considerable, and the ejection was preceded by a sense of sinking at the heart and faintness which sometimes alarmed him. By the free discharge of the fluid from the stomach he was invariably relieved, and rarely had any return of symptoms until the following day.

"The story of the repetition of the attack, always at the same time or about the same hour, was so peculiar and so often repeated, I could not fail at last to attribute it to something taken at breakfast; and finally I began to suspect that a dish of oatmeal porridge might be the enemy. He had taken this for breakfast for many years, and had never thought it injurious, and when I named my suspicion he was incredulous. However, he took the advice to leave off oatmeal 'on trial,' and from the day of leaving it off had no return of his symptoms. Six months later he ventured the oatmeal diet again, and in a week was as bad as ever. Once more he left it off, and once more was completely cured. This was observation on a patient; but, for experiment's sake, I tried the effect of oatmeal diet on myself, with the result of setting up in a few weeks as decided an attack of pyrosis as could be observed or felt. In my own case I found that barley-water, repeated for a time, produced the same result. After making these observations I continued to inquire, in all instances of pyrosis I have since met with, whether oatmeal formed a part of the dietary of those affected; and I have found so many corroborative experiences, I am led to think there is no more frequent cause of pyrosis than oatmeal or a similar fermentative food."

The Local Examination of Unmarried Women.—Commenting favourably on the excellent article of Dr. Coe (*Med. and Surg. Reporter*), the editor of *Gaillard's Medical Journal* says: "In the discussion of a recent able paper of Dr. A. Jacobus on amenorrhœa before the Northwestern Medical and Surgical Society, the consensus of opinion seemed to be that local treatment was unavailing in most cases, and several able observers inveighed against the too common practice of vaginal examination of young girls. The writer's personal observation may serve to enforce this view. He has occasion to treat a large number of young lady teachers. Recently two of these have consulted him who have been treated by 'lady physicians.' It appears from their statement that many of their friends have been subjected like themselves to tri-weekly applications of tampons, iodine, pessaries, etc. In both cases there was no organic disease requiring local treatment. One had become a utero-maniac, whose chief symptom was vomiting and loss of appetite. Placing her under strict surveillance in the hospital and giving her daily cold ablutions, with tonics and absolute abstention from local treatment, restored the stomach. She gained flesh and went to work. But her utero-mania had been so firmly established that she applied at a dispensary, where the young gynæcologists treat her anteflexure secundem artem (?). The other case was found to be suffering from constipative anæmia and neurasthenia. Being a woman of great will power she has abandoned all thought of local treatment, and is now gaining health and strength under the rain-bath, and daily ablutions, aloes and mast pills, and good diet. It is our duty to save these young girls the mortification and annoyance, and absolute injury of a vaginal examination unless found absolutely necessary, after failure of other treatment. To our colleague of the gentler sex this duty is quite as imperative, and their attention to it is the more necessary, since they may regard the moral effect less pronounced, and many of them deem themselves specially adapted to this class of practice among young women."—*Medical Record.*

New Method of Examining Specimens of Blood.—A method of making permanent preparations of blood has recently been described by Dr. R. Muir in the *Journal of Anatomy*, which promises to be of great use in clinical investigation. The specimens thus prepared can be preserved indefinitely, and compared with others obtained from the same patient at subsequent periods. The method is quite simple. The films are prepared on cover-glasses in the usual way, and, before they have time to dry, are placed in a saturated aqueous solution of corrosive sublimate (to which a little common salt may be added) for half an hour. The corrosive sublimate is then washed away with a three-quarter per cent solution of common salt, and the film is further hardened by a few minutes immersion in methylated spirit, and then the absolute alcohol. The specimen can then be stained by the ordinary reagents, very good results being given by double staining with eosine and hæmatoxyline, the red corpuscles being stained by the eosine, while the nuclei of the leucocytes are prominently revealed by the hæmatoxyline. —*Lancet.*

A New Method of Extracting Foreign Bodies FROM THE EXTERNAL AUDITORY CANAL —Humbert, in a case in which a child had pushed a porcelain button into its ear, and in which all efforts to extract it by means of injections and forceps had failed, made use of the following method. He obtained some inspissated Venice turpentine and melted it; he then dipped the end of a match into the melted turpentine and placed it against the button in the ear. The turpentine adhered strongly to the foreign body, which was then easily extracted. —*Rev. Méd de la Suisse Romande.*

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CHOLERA.

"Will we have cholera in Canada this year?" is the question asked on all sides. The present epidemic, which is now raging in Russia and to a lesser extent in France, had its origin at Askabad in Persia. From this point it has spread along the lines of travel east and west. It has advanced into Russia from the Caspian Sea by two routes,—from Astrakhan, at the mouth of the Volga, it has been carried up the great river by the steamboat traffic; and from Baku, along the line of the Trancaucasian Railway. The disease has passed the natural barrier of the Caucasus just as the month before (June) it passed the Caspian Sea—along the trade route. It is feared that the infection may spread into Southern Russia and the Black Sea ports. In view of this, Bulgaria has established quarantine stations at Varna and Bourgas, and Turkey, at the Black Sea mouth of the Bosphorus. A correspondent of the *Standard* who visited the last-named station lately has given an account of the arrangements made, which is far from reassuring. The International Sanitary Board recently decreed that floating hospitals were to be organised for the treatment of persons attacked by cholera, and requested the Turkish Admiralty to furnish two vessels, but this the Admiralty has not done, and so far no provision has been made for the treatment of cholera cases should they arise. Astrakhan, at the mouth of the Volga, is in a lamentable condition. The town is under martial law because of riots which have broken out on account of rumours of patients being buried alive. Very elaborate precautions have been taken, at least on paper, to prevent the further spread of the epidemic along the railroads, which have been the principal channels by which it was transported from Persia.

In the suburbs of Paris there has been an outbreak of a severe and fatal diarrhœal disease which at first was called *cholerine*, but which has proved to be true Asiatic cholera. The water supply is very defective, much of it being obtained from the Seine, and as three-fourths of the drainage from Paris is discharged into the river, such water must greatly facilitate the spread of the disease. We are also informed that, in part, Paris still clings to the old system of privy pits instead of a proper system of drainage.

The following order has been issued in Great Britain to prevent the importation of rags from infected ports: "Whereas cases of an infectious disease alleged to be cholera now exist in certain parts of France, and it is expedient that regulations should be made with reference to ships having on board bales of rags from that country, now therefore we, the Local Government Board, do by this our order and in exercise of the power conferred on us by section 130 of the Public Health Act, 1889, by section 113 of tbe Public Health (London) Act, 1891, and every other power enabling us in this behalf, make the following regulations and declare that they shall be enforced and executed by the authority or authorities specified: 1. From and after July 12th, 1892, and until we shall by order otherwise direct, no rags from France shall be delivered overside, except for the purpose of export, nor landed in any part or place in England or Wales. 2. If any rags shall be delivered overside or landed in contravention of this order, they shall, unless forthwith exported, be destroyed by the person having control over the same, with such precautions as may be directed by the medical officer of health or the sanitary authority within whose jurisdiction or district the same may be found. 3. All masters of ships, consignees, and other persons having control over any rags prohibited under this order from being delivered over-side, except for the purpose of export, or landed, are required to obey these regulations. 4. All officers of customs are empowered to prevent the delivery overside or landing of rags in contravention of this order. 5. It shall be the duty of the sanitary authority to take proceedings against masters of ships, consignees or other persons having control over any rags, who shall wilfully neglect or refuse to obey or carry out, or shall obstruct the execution of any of these regulations."

This order is also applied to rags imported from all ports of the Black Sea and the Sea of Azov, and also from all ports of Turkey in Asia.

In the face of these and other precautions observed in Great Britain, what steps have been taken in Canada? Practically, none. We are threatened with cholera from the East and smallpox from the West. The Minister of Agriculture reports against improvements at the Grosse Isle quarantine station on the ground that they cost money. Our local Health Committee spend their time and energies in squabbling over the appointment of a sanitary inspector instead of giving full power to the city medical officer to enforce the law and carry out reforms which are urgently needed.

In answer to the question with which we started, we must admit that our principal reliance is in the lateness of the season, as before an epidemic could obtain a foothold it would be checked by cold weather and frost. However, this should not lull us to sleep in fancied security, because the comma bacillus is not killed by cold, but only reduced inert for the time being, to awake into fresh vitality with the return of warm weather. Sanitary authorities everywhere should remove all causes tending to pollute air, food or water.

THE NEW MEDICAL BILL.

We are glad to say that the recent amended Medical Bill was defeated in the Legislative Council. It was framed on mediæval lines, and not suited to the requirements of a modern scientific medical education. One of its chief features was the multiplying excessively of the already too numerous lectures. This may be in keeping with the spirit of the French-Canadian medical education, but is not that of any other people who desire their sons to be in the fore front of modern medical science. What is wanted is fewer didactic lectures and more demonstrations and laboratory work, and this is the tendency of medical education everywhere else. Only in this Province of Quebec, which is keeping up its reputation for being at the tail-end of the procession in many matters, is it thought advisable to increase the number of lectures in order to improve medical education. Both abroad and elsewhere on this continent all advance is being made by lessening the number of lectures and increasing the practical work. In mediæval times, when the text-books were scarce or non-existent, all teaching was by lectures, from which elaborate notes were taken by the student; but these days are past, and yet the majority of the College of Physicians do not seem to have found it out.

Another prominent feature of the bill was the compulsory examination clause, whereby all individuals, whether graduates of reputable universities or not, would be obliged to pass a professional examination before being allowed to practice. With this feature of the bill we have not so much fault to find, but still it was taking away certain rights from the universities which had always existed, and was not advanced for the purpose of improving the status of the profession, but for the sake of reducing the number of licentiates. It was a protective measure, in which those that were in wanted to keep the others out. The racial and language difficulty again comes in here. Unless there was an English and French board the scheme would not work satisfactorily, at any rate for the English minority, which would again have to go to the wall where eighteen out of twenty of the examiners would be French, and educated in quite a different school of thought and science. The principle is correct if it was applied to Canada as a whole, so that a man by going up for examination could obtain a license to practise throughout the Dominion, but when applied piecemeal to the various provinces it is a failure, and becomes in the end a fight between the general profession and the medical schools.

THE PRELIMINARY EXAMINATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

Grave scandals have crept into this examination. We are informed on the best authority that examination papers have been freely bought and sold at the doors of the examination hall, and that for the modest sum of twenty-five dollars a candidate could not only get the papers but the answers to them. Now, this state of affairs should not be tolerated, for with a little care in the printing, as in university examinations, the papers could never be obtained before examination.

In addition to the above scandal we are told that many candidates are in the habit of bringing books into the examinations and consulting them quite freely when in difficulty. Again, there are many personations, some individuals making it a practice of passing these examinations, for a consideration, in the name of weak candidates. In the last examination the number of personators exceeded the number of legitimate candidates, and on the examiner saying he knew there were individuals there personating others, ordered them to leave the room on pain of legal prosecution, the majority got up and went out. So much was this examination in the hands of personators, that at the triennial meeting the examination was declared null and void and another ordered to take place. Such scandals are not pleasant subjects to expose, but if we want an improvement they should be publicly denounced, and reforms should be undertaken without delay if we do not wish to become the laughing-stock of our neighbors.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF THE PROVINCE OF QUEBEC AND THE ENGLISH REPRESENTATION.

Our readers will notice that at the triennial meeting of the above College for the election of Governors, etc., held last month, the English-speaking contingent on the Board is gradually becoming smaller, and were it not for the representation from the two English universities, which is regulated by law, it would be veritably reduced to a corporal's guard. We are sure that it will be a surprise to the English-speaking members of the profession to hear that the district of Montreal has only one English-speaking representative, and that the city of Montreal has not a single one. The only active medical society in the province, the Medico-Chirurgical Society of Montreal, has not a single representative in the College of Physicians. This society, which comprises amongst its members the most scientific, advanced and best men in the profession in this province, is totally unrepresented. Of course, the English-speaking minority is quite helpless in the hands of the French, and trusts entirely to their sense of fairness, justice and generosity for representation ; but the minority has trusted to a broken reed. There is always much talk of how generously the English minority is treated by the French-Canadians, but this is chiefly in political and after dinner speeches. "Let brotherly love continue" is always the text, but this must sooner or later end if the brotherly love is always on one side, or consists of words, not deeds. When we come to hard facts it must be admitted that the English-speaking members of the profession are not getting fair-play. In the Canadian Medical Association, where the English-speaking are largely in the majority, the French have always been fairly treated in the way of representation, although they contribute little to the work of the association. The minority will not always be so complacent, but sooner or later will demand justice in such a way that it cannot be denied. Time will show how long the policy of "might is right" will prevail amongst a profession which is supposed to be composed of educated, scientific men, above national and other prejudices.

THE KEELEY FRAUD.

At last we have in our neighborhood two institutes on the Keeley model for curing inebriates by the use of the so-called bichloride of gold method. Time and again the Keeley remedies have been analyzed and no trace of gold discovered ; doubtless it all found its way into Keeley's pocket. The remedies consist of the old-time favorites, belladonna and strychnia. Keeley having sold out his secret to many individuals in the States, after making a fortune at Dwight, Ill., has gone to seek fame and to try and sell his remedy in Great Britain, the price for exclusive use being only £150,000. And yet he claims to be a philanthropist and to be working solely for the good of humanity. The Church and clergy endorse him, as they did Perkins' Tractors, and speak of his so-called cure as "the glory of the nineteenth century." Keeley at first claimed no relapses, now he says that he cures 95 per cent; but the directors of insane asylums state that they get many of the so-called Keeley cures in their institutions, others die, and a great number relapse. It is the same with all forms of quackery. At first everybody is cured by the remedy, then there are a few failures, and finally it is found that nobody is cured. And so the various frauds

> "In turn appear to make the vulgar stare,
> Till the swoll'n bubble bursts—and all is air."

The reasons Keeley gives for keeping his remedy secret are amusing. "We could not hand it over to the doctors, because they would not handle it properly. I look upon my cure as belonging to the women and children of the country. If I gave out the formula the quacks would destroy it in a very short time," etc. Now, the regular profession can have nothing to do with this remedy until its formula is disclosed by Dr. Keeley, and then it can be scientifically tested in the proper way by competent men. As it is, we advise all honorable physicians to have nothing to do with any such system of quackery by which the public are deluded and robbed. The very man who wrote a brilliant article in a prominent review on the subject of the greatness of Keeley and his cure, saying he was one of the cured and would never relapse, died a few weeks after in a drunken debauch. Such is the testimony by which this fraud is supported; but to the end of time human credulity will exist, and therefore quackery will always flourish.

COD LIVER OIL.

The Parliament of Newfoundland has at last had its attention directed to the importance of improving the methods of obtaining cod liver oil. The following extract, from the report of the proceedings of the Newfoundland Parliament in the Halifax *Morning Chronicle*, shows what steps are being taken, and that there is no reason why Newfoundland oil should not be just as valuable as the Norwegian product:—

" Acting on the instructions given by Mr. Nielsen, superintendent of our fisheries, some of our people are introducing the Norwegian method of manufacturing cod liver oil used for medicinal purposes. It is well known that Norwegian cod liver oil brings everywhere the highest price in the markets, being preferred to every other. This is entirely owing to the superior skill and care exercised in its manufacture. The first and most important point with them is to select fat and healthy livers, which are of a whitish hue, diseased livers being greenish and lean ones red ; and to reject all that are not up to a high standard. Great cleanliness is observed throughout the whole process. The livers are first put into tanks and carefully washed in warm water ; then they are allowed to drip over an open wire. They are then placed in high, round vessels or kettles, surrounded by steam at a pressure never exceeding five pounds. By this process the livers boil very slowly or rather simmer for eight hours, after which the oil is dipped out and filtered twice through cotton, and put in large tin vessels tightly soldered. The oil is now clear and white and appears quite pure. The process, however, does not end here. The oil is shipped to Christiana where it undergoes a chemical treatment which frees it from the microscopic globules of blood and from stearine. It is finally filtered through paper and is ready for the market. From the residue a kind of brown oil, of inferior quality, is made , and from the dregs a fertilizing compost."

—We regret to learn of the death, at the age of 42, of Dr. J. B. Berthelot, Professor of Anatomy at Laval University. Deceased was the son of Judge Berthelot.

AMERICAN DERMATOLOGICAL ASSOCIATION.

The sixteenth annual meeting of the American Dermatological Association will be held at the Pequot House, New London, Conn., Sept. 13th, 14th and 15th, 1892. The following papers will be read:—

1. Iodine and Carbolic Acid in the Treatment of Skin Diseases—Dr. C. W. Cutler.
2. Additional Note on the Treatment of Erysipelas based upon a Second Series of Fifty Cases—Dr. C. W. Allen.
3. A Suggestion for Operative Procedure on Erectile Naevi over Fontanelles, etc —Dr. S. Sherwell.
4. How Should Dermatology be Taught?—Dr. G. H. Fox.
5. A Somewhat Unusual Case of Lupus Ulceration of the Nose—Dr. H. W. Stelwagon
6. Lupus Vulgaris following Exposure to Tuberculous Sputa—Dr. W. T. Corlett.
7. Notes on the Treatment of Lupus Erythematosus—Dr. J. Zeisler.

Discussion on Alopecia Areata:

Are there two forms of alopecia areata; one parasitic and one neuropathic?

Is there sufficient evidence to prove the contagious nature of the Disease?

What is the comparative value of carbolic acid, and of other topical remedies?

Will epilation of the margin of the patch prevent its spread?

What circumstances influence the prognosis of the disease?

8. Alopecia Prematura; its most frequent cause—Dr. G. T. Elliot.
9. Cases of Favus Contagion from the the Lower Animals—Dr. S. Sherwell.
10. Some Observations on the Growth of Achorion Schoenleinii in America—Dr. L. Heitzmann.
11. Morphœa Atrophica—Dr. R. W. Taylor.
12. Psorospermosis—Dr. M. B. Hartzell.
13. Report of a Case of Adenoma Sebaceum, with Microscopic Drawings—Dr. J. A. Fordyce
14. Concomitance and Sequence in Skin Eruptions, and the influence of one dermatosis upon another—Dr. C. W. Allen,
15. The Cicatrices of Syphilis—Dr. J. N. Hyde.
16. An Unusual Case of Syphilis—Dr. B. Morison.
17. An Exaggerated Case of Impetigo Contagiosa—Dr. G. T. Elliot.
18. Notes on a Recent Visit to the Leper Hospital at Havana; Leprosy in Charleston, etc.—Dr. W. T. Corlett.
19. Notes on the Use of Thilanin—Dr. G. H. Fox.

CANADIAN MEDICAL ASSOCIATION.

The twenty-fifth annual meeting of this Association will be held in Ottawa on 21st, 22nd and 23rd September, under the presidency of Dr. John L. Bray, of Chatham, Ont. The following is a partial programme:—

Address in Medicine—Dr. J. E. Graham, Toronto.
"The Treatment of Pulmonary Tuberculosis"—
Address in Surgery, "Observations on the Progress of Surgery in our own Day"—Dr. Donald Maclean, Detroit, Mich.
Gastro-Enterostomy—Dr. L. McFarlane, Toronto.
Chronic Bright's Disease—Dr. McPhedran, Toronto.
Uric Acid in Children—Dr. A. D. Blackader, Montreal.
Intussusception and its Treatment by Operation—Dr. F. J. Shepherd, Montreal.
Biological Analysis of Some Canadian Water Supplies—Dr. Wyatt Johnston.
Prostatectomy—Dr. Geo. E. Armstrong, Montreal.
Unrepaired Laceration of the Cervix the most Common Cause of Epithelioma of the Cervix Uteri—Dr. Lapthorn Smith, Montreal.
Treatment of Abortion—Dr. K. N. Fenwick, Kingston.
Hemorrhage in the New-born—Dr. F. A. L. Lockhart, Montreal.

Papers have also been promised by Dr. Mullin (Hamilton), Drs. James Bell, T. Johnson-Alloway, F. Finley and J. Stewart.

—The Mississippi Valley Medical Association will hold its eighteenth annual session at Cincinnati on Wednesday, Thursday and Friday, October 12th, 13th and 14th, 1892. An excellent programme, containing the best names in the Valley and covering the entire field of medicine, will be presented. An address on Surgery will be delivered by Dr. Hunter McGuire, of Richmond, V., President of the American Medical Association. An address on Medicine will be made by Dr. Hobart A. Hare, Professor of Therapeutics and Clinical Medicine, Jefferson Medical College, Philadelphia.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The twentieth annual meeting of this Association will be held at the City of Mexico, Mexico, November 29, 30, and December 1, 2, 1892. Members and representatives from all parts of the United States and Canada have already expressed their intention of attending this meeting, not only because it will probably be the largest and most important ever held, but also to enjoy the pleasures and delights of an excursion trip to the "Egypt of America." The Secretary has recently been in Mexico, and made full arrangements to secure a large and successful meeting. The Mexican Government has interested itself in the work, thereby assuring the success of the meeting. All the details are in the hands of federal officers of the Republic of Mexico. The general government has requested every State to send delegates. Invitations have also been extended to Central and South America. The session will continue four days, and owing to the expected large number of papers the Association will, probably, for the first time, do its work in sections. Prominent sanitarians and scientists from the United States, Canada, Mexico and the Central and South American Republics will take an active part in the meeting.

—Sir Daniel Wilson, President of Toronto University, died on Saturday afternoon, Aug. 6th. It created no surprise, as it was generally expected, Sir Daniel having been at the point of death for some time past. He was born in Edinburgh on Jan. 5th, 1810, and received his education at the university of that city. His loss will be sincerely mourned throughout Canada.

Medical Items.

—Pravaz, the inventor of the hypodermic syringe, died recently at Lyons.

—Dr. James S. Green, President of the New Jersey State Medical Society, died at Elizabeth on July 2nd.

—Fischel, a distinguished psychiatrist, died at Prague on June 4, at the age of seventy-nine.

—Biermer, the distinguished German clinician, died recently at Breslau, at the age of 65. It was he that announced pernicious anæmia as a distinct disease.

—Frederick Le Gros Clark, F.R.C.S., F.R.S., formerly President of the Royal College of Surgeons, and Surgeon to St. Thomas's Hospital, died on the 19th July last, aged 81.

UNIVERSITY OF PENNSYLVANIA.—Dr. Tyson has resigned the position of Dean, and Dr. John Marshall has been chosen to succeed him.

—Old doctor—" No, sir. I never have a patient die on my hands—never." Young doctor—" How do you manage it ?" Old doctor—" When I find a man is going to die I get him to call in a specialist."—*Life*.

UNIVERSITY OF VIENNA.—Otto Bergmeister has been elected Professor Extraordinary of Ophthalmology ; Josef Englisch, Prof. Extraordinary of Surgery ; Ferdinand Hochstetter, Prof. Extraordinary of Anatomy ; Alexander Kolisko and Richard Paltauf, Professors Extraordinary of Pathological Anatomy.

FOUR AT A BIRTH —A Philadelphia woman recently went to visit a friend, and there gave birth to four girls. The press dispatch which conveyed the information also states that the father, who was breakfasting at the time, became greatly excited when the news was broken to him.

SCARLET FEVER IN LONDON.—For some weeks there has been an epidemic of scarlet fever in London. Although the number of cases reported has been large. the general death-rate has not been higher than usual. It was estimated that nearly three thousand cases were under treatment.

VISCERAL PHLEBOTOMY.—George Harley, of London, Eng. (*Med. News*, July 23, '92), recommends in inflammation of any of the internal viscera to withdraw blood directly from the organ by means of a trocar of the size of a No. 2 or 3 catheter. He says the operation is easy of performance and is without danger. In two cases of inflammation of the liver marked benefit was obtained by this method.

PREPARATION OF IODOFORM SPONGES.—The following is the method of Haug (*Nouv. Rem.*) : Small, soft, cleansed sponges are immersed for five days in water to which five per cent. of hydrochloric acid has been added; after which they are thoroughly washed in an abundance of water, and dried. They are then placed in a 7½ per cent. ethereal solution of iodoform; the ether is allowed to evoporate, which being completed, the sponges are preserved in well-stoppered bottles.

DEATH OF THE HON. JOHN ROBSON.—Mr. Robson, the Premier of British Columbia, died recently in London from pyæmia. While driving in a hansom cab, about ten days before, he had accidentally jammed his finger in the door and bruised it severely. A physician examined it, but did not consider the accident a serious one. The finger did not heal well, however, and when medical advice was sought again the patient was found to be suffering from pyæmia, and died in spite of amputation of the finger.

THE APOTHECARY'S OATH.—A correspondent of the *Medical News* writes: " While reading Boas's ' History of Medicine,' I found the following oath, as taken by the apothecaries of the 13th century: ' To honour, esteem, and serve the doctors of medicine, . . . to speak no evil, ... and to do everything which may contribute to the honour, reputation, embellishment and majesty of medicine.' Is there a 19th century apothecary that would show his allegiance to and dependence upon the medical profession as did these men of old? Where has progress shown itself along this line? What cares the druggist for the doctor to-day when he has the quack to back him?"

—"It was heart failure," say the doctors, and they say it so often that we put on our thinking caps. One business man after another falls out of sight, and when we ask what the trouble was the reply is sure to be "heart failure!" A great deal of worry, a habit of constant hurry, keeping at high tension year after year—that's what's the matter. We sleep with one eye open, talk business in our dreams, swallow a whole meal—soup, entrees, roast and dessert—with one gulp, and then when we hover about the fifties, the heart gets disgusted at its treatment and closes up the concern.—*Ex.*

ANTISEPTIC TREATMENT OF GONORRHŒA.—Wattier, in the *Journal de Médicine et de Chirurgie Pratiques*, recommends the following as an injection for gonorrhœa: Hydrarg. bichlor. 1; antypirin 100; distilled water 10,000. The patient should use this three or four times a day, preferably after micturition, and the fluid should be retained in the urethra as long as possible, at least half an hour. It is better to use the injection lukewarm. He does not know whether the antipyrin acts as an antiseptic or whether it gives greater strength to the sublimate when mixed with it. He also says that solutions of 1 in 10,000 of sublimate are still caustic, while those of half that strength are inert, but when mixed with antipyrin good results are obtained.

KEELEY TAXED AS A LIQUOR DEALER.—The revenue department has made a ruling on Dr. Keeley, of gold-cure fame, who furnishes whiskey to his patients by the dram and by the bottle. He is considered by the United States Government as a retail dealer in liquor and liable to the regular Government tax. The Kansas City collector notified the St. Joseph Keeley Institute of this fact, and they referred the matter to their headquarters at Dwight, Ill. The Keeley company at once made a vigorous protest to the department at Washington against being classed with saloon-keepers. Uncle Sam's rules, however, are inflexible, and the protest referred to brought a letter from Commissioner Mason, in which he explains that matter very plainly. The Keeley people objected to the declaration under oath that they are retail liquor dealers. Commissioner Mason says that every druggist who sells whiskey or other spirits not combined with drugs, though he furnishes the spirits on a physician's prescription, and for medicinal use only, is required to pay special tax as a retail liquor dealer.—*St. Louis Daily Globe-Democrat.*

EARLY RISING NOT ALWAYS A VIRTUE.—This subject is discussed by *Harper's Bazar* in the following manner: "Thousands of people have no choice whatever about their hour of rising in the morning. Later or earlier, that hour is fixed for them by the requirements of the office, the shop, or the class-room; by the time-table of the railroad; by the arbitration of their employers or the necessities of their employés. But in the cases manifold where personal liberty is enjoyed, it should not be thoughtlessly restricted simply because of the domestic tradition that early rising deserves praise and late rising blame. Breakfast may often be a movable feast without materially disturbing the routine of an orderly housekeeping day. Invalids, mothers whose rest has been broken by teething babies, and, above all, rapidly growing children, should have their sleep out. Nature demands this, and violence is done to her when sleepy people are rudely aroused from their beds. Early to bed is the single safe prescription to insure early to rise. We need to repeat it over and over to our hurrying, anxious, toiling American men and women—Rest, rest, and again, rest. Do not think time ill spent that is spent in repairing the ravages of our well-nigh incessant activity."

—Dr. Nathan Woodhull Condict, who belonged to the coterie of distinguished physicians that flourished in New York a generation ago, died on June 27th, at his home in Morristown, N.J., at the advanced age of 83 years. He was born in Morristown, and was the son of that eminent physician and statesman, Dr. Lewis Condict, who was one of the originators of the United States Pharmacopœia, one of the commission to fix the boundaries between the States of New York and New Jersey, and a distinguished Whig congressman for many years in the days of Henry Clay. Dr. Nathan Condict was graduated from Princeton College in the Class of 1828, studied medicine at Dr. Willoughby's school at Fairfield, N.Y., with Asa Gray, the botanist, and was afterwards graduated from the College of Physicians and Surgeons in New York city. He practised in New York for a long time with much success, and contributed frequently to current medical literature. For a number of years he was associated with the late Dr. David Meredith Reese, and among his intimate friends were such men as John W. Francis, Abraham Du Bois, Valentine Mott, Willard and Parker.—*Boston Med. and Surg. Journal.*

A PRESCRIPTION FOR YOUNG PHYSICIANS.—According to the *British Medical Journal*, a distinguished Vienna professor gives the following prescription to all young physicians who call to take leave of him before embarking on their professional career. ℞ Veritatis, humanitatis, fidelitatis, āā infinitum. Misce. Ft. elixir vitæ. Signa: To be used constantly throughout life. It is easy, perhaps, for most men to start with a good stock of this spiritual elixir, but the difficulty is to find an apothecary who can dispense the prescription when the supply has run out.—*N. Y. Medical Journal.*

—Dr. Charles G. Davies of Chicago, who has sent a large number of invalids to Eddy, New Mexico, during the past year, writes to Mr. G. O. Shields of that city: "I must say that, without exception, every patient that I have sent to that delightful country has made wonderful improvement. I am delighted with what your climate has done for them, and shall certainly send you a large colony next winter." The Pecos Valley, of which Eddy is the principal town, is attracting the attention of physicians everywhere, as having the most perfect climate to be found on this continent, for persons suffering from lung or throat troubles, catarrh, asthma, rheumatism, etc.

THE

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Original Communications.

ADDRESS IN SURGERY.

BY WILLIAM H. HINGSTON, M.D., LL.D., D.C.L.,

Surgeon-in-Chief to the Hotel Dieu, Montreal; Professor of Clinical Surgery in Laval University.

At the Annual Meeting of the British Medical Association, held at Nottingham, July, 1892.

ON SYNTHESIS IN SURGERY.

The feelings with which I rise to address so large and so distinguished an audience are a strange alloy of regret that I must needs fall short of my own desires; of confusion at finding that those to whom the same post of honourable duty has been entrusted in past years have left no branch of surgery untouched; and, more than all, of dread lest my beloved Canada should suffer in your estimation at the hands of one who wants not the will but the power to do her justice on this momentous occasion.

Permit me, in my country's name, to thank you in all sincerity for the compliment paid to her in inviting one of her children to your shores, and in assigning to him a position of such honour in your deliberations—a position hitherto reserved for the most eminent of your own land—a land teeming with all that is great and noble in our art. Let me assure you that Canada is not unmindful of this fresh token of your regard. She is, as you well know, most firmly attached to the parent State; she glories in your past, she is deeply interested in your future; your glory is her glory; your future is her future; and she is grateful for any thought of her in your councils, especially where science is concerned, and where the common good of mankind is the object.

It was the desire, on our part, to be in closer touch with you which made it possible, last year, for that able and indefatigable worker, Mr. Ernest Hart, to successfully establish those more intimate relations which now so happily exist between members of our profession in the parent State and in the Canadian Dominion Mr. Hart passed quickly from Vancouver to Quebec, and at his touch Branches sprang as quickly into existence as beacon fires were once lit on the summits of your Welsh hills.

Coming, as I do, to the very apex of surgical art from the wide circumference of its base beyond the seas. it might appear bold were I to attempt, as we sometimes do in Canada, to pass in review the advances in our art during a certain period. There we are accustomed to glean from the United Kingdom, France, Germany and other countries the best fruits of their workers, and to place them before the profession, stamped, for the most part already, with the mark of your and of their approbation. But that would here be dangerous, for an address of that nature, however carefully prepared, nicely adjusted, thoroughly combed down, complete and fashioned in all its parts when leaving the western hemisphere, might, on its arrival here, be found to be wanting in the most recent of its important features—features with which you, in the meantime, might have become familiar,—for the advances in our art excel in speed, sometimes, the swiftness of ocean travel.

It has been found by some of my predecessors in this rostrum that the advances in surgery have been so great and so important that to follow them at all closely in their many ramifications would be impossible. This difficulty seems to have occurred to my immediate predecessor, the learned Edinburgh surgeon, and, in his admirable address, he turned at once, and for relief as it were, to surgical rest. But the rest, aptly termed surgical, for which Professor Chiene, following Mr. Hilton, had secured so much attention, was objective. It seems to me that with this much-needed surgical rest there runs *pari passu* a surgical unrest which is subjective, and which will be my text for a moment.

On this the eastern side of the Atlantic, where, in every branch of commerce, in every trade and handicraft, in every liberal art, in every learned profession, the lines which divide the work to be done by each are, for the most part, clearly and distinctly traced, the ceaseless agitation of life is marvellous, and would seem to favour the view long ago expressed by De Quincey that solitude was, even in his time, becoming a visionary idea in this country; Yet to me, a visitor, it appears life here is calm, quiet, placid when compared with that on the western continent. Here there is time for easy and familiar intercourse ; there it is grudgingly given. Here you leisurely perform the functions necessary for the repair of wasted tissue, and the reception of food, recreation and sleep have each their due time allotted to them; there they are unduly curtailed as things which might be realized and converted into currency. This state of unrest everywhere—but especially in the western world—is not favourable to the surgeon, the full capabilities of whose intellect are not unfolded without sufficient occasional leisure and thought and retirement, all of which are, in some measure, denied to him in our new and over-active world. With you, as with us—but, as it seems to me, not so much with you as with us—the average surgeon of to-day is less a man of thought than a man of action. He is constantly liable to disturbance, either from the particular character of his calling, or from the agitation of all around him, of which he soon partakes. He is made to eschew the more meditative habits which would the better fit him to weigh well and to adopt or reject what should be adopted or rejected, without reference to authority, or without being swayed by the influence, not always safe and reliable, of superiority of position or of condition.

Perhaps at no time in the history of our art have the facilities been greater everywhere than they are at present of arriving at conclusions which may not be sound, and of being misled by representations which may not be strictly true. In the few intellectual centres, in ancient times, opinion was gradually formed in solitude. It advanced in regular progression, and from mouth to mouth, as it were. To-day, with steam and electricity and the wondrous and unceasing development therefrom of vast physical agencies, men are brought nearer to each other. Truth, to-day, travels with the speed of lightning; but error also, and with like rapidity. Opinion, formed in a report. It is due in great measure to the hurry and unrest, the variety of fatiguing work a surgeon is called upon to do, and the difficulty, even in cities, of having properly qualified clinical assistance. Outside of hospitals there are well-qualified nurses for the rich—their services are beyond the reach of the poor—and they append the temperature and pulse chart; but beyond this there is often no further record till the case is finally summed up by the surgeon, when the details of treatment are added.

Men of action who have left and are leaving the impress of their intellect in the more practical departments of our art are often obliged to search in their visiting list or their day-book, where the more methodical and leisurely arrangement of your work enables you to be more precise.

Sometimes the facts are drawn from memory and, for all that is essential, correctly drawn, though dates and other precise circumstances are often wanting. It is from this hurried manner of reporting cases that doubt is sometimes felt of their credibility when given without reference to minor parts which are not considered essential to their truth. The older members of this Association can recall how the statement was received from America, some years ago, that a crowbar had been driven through a man's skull without killing him, and how brain matter had been found adherent to the strong bar of iron at a distance of many feet. The number of feet was not given (I cannot give it now), but the statement nevertheless was true, even without the lesser detail of distance.

Some of you will remember how little disposed many were to believe that a sponge probang, charged with solution of nitrate of silver, could be got beyond that watchful sentinel, the epiglottis, and be applied to the larynx. Who doubts it now? The same may be said of Sayre's assertion, discredited at the time, that after excision of the bones of the hip or knee, the joint could be so arranged that the little patient might be borne from one place to another without discomfort and without injury. Many of you have seen Sayre's work.

Were I disposed to dwell on American surgery I could greatly multiply instances of this kind, but that is not my purpose. I shall merely add that it must be apparent to readers on this side of the Atlantic, and to those who have visited the western hemisphere, that the American surgeon arrives, in his own way and with marvellous celerity, at the chief points in a case—at its gist, its essence so to speak—by a process which may not be strictly logical, but which is rather of the nature of an intuitive intellectual judgment or perception. He seems to recognize truth, or something he takes to be truth, without the necessity of any elaborate process of ratiocination. This marked quality in the American mind renders him prone to eclecticism, not alone in medicine and surgery, but in philosophy, and even sometimes in matters of theology.

Though the principles of our art are independent of nationality, there are conditions peculiar to the different parts of the earth's surface which must be taken into account by surgeons and which to a greater or less degree modify practice. The relatively greater freedom from death which Valentine Mott, more than half a century ago, claimed for surgical operations performed in New York and Philadelphia, I claim, and more advisedly claim, for operations performed in the larger cities of Canada. The inflammations which sometimes follow surgical procedures with us are indeed accentuated, and are marked by much elevation of temperature; but the character of those inflammatory processes is of a simple sthenic type, and not of that irritable form which so often perplexes hospital surgeons in the larger centres of Europe.

The climate of Canada has much to do with this. In many parts of Great Britain mortality, from all causes, increases with the decrease of temperature; with us the reverse is the case. Our winter season, with the temperature of St. Petersburg, is the healthiest; spring and autumn come next in salubrity; while the largest mortality is in July and August, when the temperature is that of the same months in Paris. At certain seasons the atmosphere is so dry that the meat of the buffalo and the red deer, when cut into strips and dried in the open air, may be reduced to powder, forming the pemmican which often alone sustains the aborigine in his wanderings. When you add to this condition of climate the simple frugal habits of the people—well fed, well clothed, well housed—living in a land where, as in Longfellow's Acadie, "the richest are poor, and the poorest live in abundance," you have a sturdy, energetic race displaying much power of resiliency when their injuries demand the intervention of the surgeon.

It is, moreover, a people subject to few ailments, and these are of a sthenic inflammatory type. Thorough acclimatization is found to confer additional immunities. Those who can count the greater number of generations born in Canada are the healthier, while those undergoing the process of acclimatization do not suffer in the processive state. These remarks do not apply to the descendants of the aborigines who have been allied to the whites. The inflammatory affections met with in the Metis. whether of the French with the Huron or Iroquois, or of the Scotch with the Cree, are for the most part of a strumous type, presenting but few of the characteristics of those affections in either ef the unmixed races.

Aneurysms are not common in Canada; chronic rheumatic arthritis is seldom met with; rickets, which the Germans still love to call, yet they cannot say why, the "Englische Krankheit," is scarce; strumous ophthalmia, which is so constantly seen in the hospitals of Vienna, London and Glasgow, is not frequent; and in cancer, especially of the breast, the glandular system is not generally primarily affected, affording thereby a fairer chance of freedom from early recurrence of this disease. (I allude to this disease advisedly, as I observe that some of your more distinguished surgeons recommend removal of the axillary glands in all cases of scirrhus of the breast—advice which, from my experience in Canada, I am not disposed to follow.)

There are no surgical diseases in Canada which have not their counterpart in every portion of Europe—two alone excepted. When, in the words of Milton,

> the parching air
> Burns frore, and cold performs the effect of fire,

frostbites are met with (among the non-acclimatized chiefly); and when snow covers the land, the *mal de raquette* is complained of by those who suddenly, and without preparation, are called upon to make long and hurried journeys on snow-shoes.

It is true that, on the eastern coast of New Brunswick, in Canada, a few lepers are met with in the lazaretto there; but the disease is not indigenous to the soil. Nearly a hundred years ago two shipwrecked sailors were cast ashore at a place called Tracadie. They were the subjects of leprosy. A French-Canadian woman gave them shelter. In washing their linen

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THE TIMES, LONDON.

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THE TIMES, LONDON, 20th Sept., 1890.

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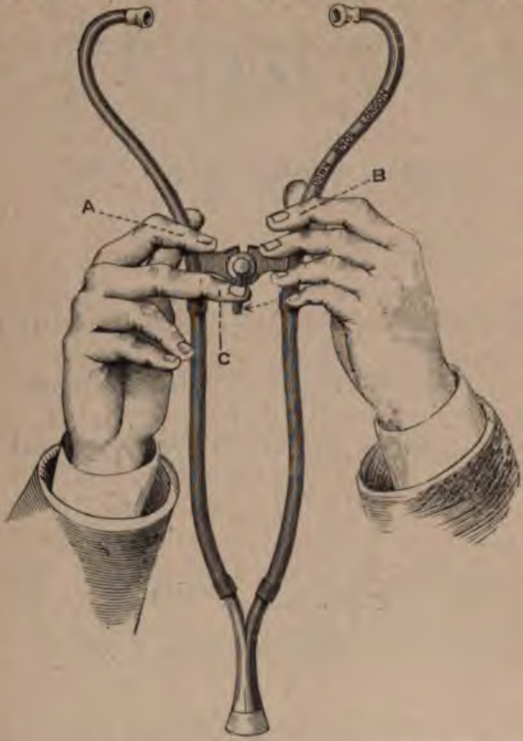

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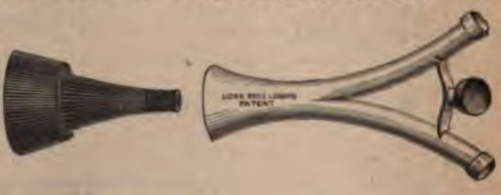

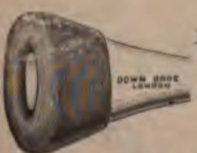

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she contracted that pitiless disease, and transmitted it to her children. These marrying, a small colony of lepers was formed. The number was at one time about seventy, but is now diminished to twenty-two, who are under the care of the Sisters of Charity from the Hôtel Dieu Hospital of Montreal. But outside the walls of the lazaretto there is no disease peculiar to the country.

In connection with this subject I may perhaps be permitted to quote the words I wrote some years ago, when dealing with this subject, in a work on the climate of Canada: "In considering the few diseases which, in Canada, afflict humanity, we have reason to be thankful to the All-Powerful Controller of the seasons as of our fate, that in separating us from the great branch of the European family, and in placing us where there are, indeed, no majestic ruins scattered around to prove past greatness or add to present interest, He has prepared for us a land where we may not only live in peace with all men, but in the assurance that no noxious exhalation will imprint its morbid impress on our countenance; that no pestilential effluvia will enter our veins; that no serpent will instil its fatal poison into our nostrils; that with our breath we shall draw no plague into our blood; and that, though he exposes us to much heat in our short summers and to a temperature in winter which pinches us till we cry out 'This is no flattery,' yet through our intelligence He keeps us in health, comfort and safety. More than once during my professional career I have endeavoured to map out one single disease or form of disease which we might claim as peculiarly our own, but so far I cannot boast of having made the discovery."

As acclimatization effects certain changes, it affords also certain immunities from which those not similarly circumstanced cannot expect to benefit. The acclimatized bear injuries well. Living in a simple primitive state, they require only occasional aid from the surgeon, and even less from the physician. Colonists, in thinly settled districts, sometimes send long distances for surgical aid in cases of hernia or dislocation. The *ramacheur*, or *rebouteur*, as he is styled, who is supposed to have an intuitive knowledge of broken bones, and how best to replace them, is often in requisition. In dislocations, however, these irregular practitioners are less fortunate. And although their practice is invariably to find a small bone out of joint, which they incontinently proceed to reduce with an audible snap (of their own hidden thumb and finger, be it added), they do not attempt to reduce dislocations of the larger joints.

I once had a case of dislocation of the hip of fourteen weeks' standing brought to me a distance of fifteen hundred miles. It took six weeks of that time, after the *rebouteur* had done with the sufferer, for the patient to reach Montreal in a box like a closely-fitting coffin. The padding was so perfect that movement of either limb or body was thoroughly prevented during a rough journey.

Domestic surgery in civilised countries might in some things learn a little from the primitive methods of our aborigines. Take, as an instance, the treatment of the newborn infant. The yielding abdominal walls are never compressed by an unyielding bandage, and the young bird in its nest is not more comfortable than the Indian babe unencumbered by swaddling clothes. As the varied movements of respiration are not impeded, the infant cries but seldom. It never suffers from local troubles as the children of the whites often do. The urine is carried beyond the infant's person, if a male, by an ingenious mechanical support which directs the stream. Feculent matter is received into dry moss, which is to be found, in large quantities, in every wigwam where there is an infant.

If, in the depths of the forest, an Indian breaks his leg or arm, splints of softest material are at once improvised. Straight branches are cut, of uniform length and thickness. These are lined with down-like moss, or scrapings or shavings ot wood; or with fine twigs interlaid with leaves, if in summer; or with the curled-up leaves of the evergreen cedar or hemlock, if in winter; and the whole is surrounded with withes of willow or osier, or young birch. Occasionally it is the soft but sufficiently unyielding bark of the poplar or the bass-wood. Sometimes, when near the marshy margin of our lakes or rivers, the wounded limb is afforded support with wild hay, or reeds of uniform length and thickness,

To carry a patient to his wigwam, or to an encampment, a stretcher is quickly made of four young saplings, interwoven at their upper ends, and on this elastic springy couch the injured man is borne away by his companions. When there are but two persons, and an accident happens to one of them, two young trees of birch or beech or hickory are used. Their tops are allowed to remain to aid in diminishing the jolting caused by the inequalities of the ground. No London carriage maker ever constructed a spring which could better accomplish the purpose. A couple of cross bars preserve the saplings in position, and the bark of the elm or birch cut into broad bands and joined to either side forms an even bed. In this way an injured man is brought by his companion to a settlement, and often it has been found, on arrival, that the fractured bones are firmly united, and the limb is whole again. This is effected in less time than with the whites, for the reparative powers of these children of the forest are remarkable. In their plenitude of health, osseous matter is poured out in large quantity and firm union is soon effected.

[Dr. Hingston here showed the femur of an aborigine in which the osseous matter was so abundant as not only to unite the fracture, but to form a bed on which the tuberosity of the ischium was made to rest.]

The reparative power of the aborigines, when injured, is equalled by the wonderful stoicism with which they bear injuries, and inflict upon themselves severest tortures. They are accustomed to cut into abscesses with pointed flint; they light up a fire at a distance from the affected part (our counter-irritation); they amputate limbs with their hunting knives, checking the hemorrhage with heated stones, as surgeons were accustomed to do, in Europe, in the time of Ambroise Paré; and sometimes they amputate their own limbs with more *sang froid* than many young surgeons will display when operating on others. The stumps of limbs amputated in this primitive manner are well formed, for neatness is the characteristic of all the Indians' handiwork.

The aborigines are familiar with, and practise extensively, the use of warm fomentations. In every tribe, their old women are credited with the possession of a knowledge of local bathing with hot water, and of medicated decoctions. The herbs they use are known to a privileged few, and enhance the consideration in which their possessors are held.

The Turkish bath, in a simpler but not less effective form, is well known to them. If one of their tribe suffers from fever, or from the effects of long exposure to cold, a steam bath is readily improvised. The tent of deer-skin is tightly closed; the patient is placed in one corner; heated stones are put near him, and on these water is poured till the confined air is saturated with vapour. Any degree of heat and any degree of moisture can be obtained in this way. Europeans often avail themselves of this powerful sudatory when suffering from rheumatism.

The aborigines have their herbs—a few, not many. They have their emetics and laxatives, astringents and emollients—all of which are proffered to the suffering without fee or reward.

The "Indian teas," "Indian balsams," and other Indian "cure-alls"—the virtues of which it sometimes takes columns of the daily journals to chronicle—are not theirs. To the white man is left this species of deception. The necromancing *medicine man* doubtless practises deception, but he is, in turn, impressed by the energy of his own incantations; and failure, on his part, to cure, exposes him to personal danger. This hurried allusion to the red man seems to me as if chanting his sad funeral dirge. He has been associated with a flora passing, nay, that has passed away. He represents a race much older than the races which have supplanted him, for did he not occupy this land ages before the Aryan race left its Asiatic home? He has, indeed, been supplanted in Canada, but he has been tenderly dealt with by us, as a minor, and with all a minor's rights. Treaties with him have always been honourably adhered to, and we have never qualified him (as he has been qualified by writers south of us) as useless lumber to be got out of the way.

In many parts of Canada, as in other countries not yet wholly covered by the flowing tide of civilisation, practitioners have to cope with difficulties unknown to those whose lines are cast in less primitive places. Now and then the surgeon of practical trend of mind has opportunity to turn that quality, essential in a new country, to advantage. I could, in illustration, relate many instances, but shall confine myself to one or two. My predecessor in the surgical clinic, the late Dr. Munro, an eminently practical surgeon, was travelling in a wild part of the country when he was asked to see a man suffering from retention of urine. Munro had no catheter with him; many miles interposed between him and an instrument, and the roads were well-nigh impassable. He looked around the log cabin for something wherewith to enter the bladder, but saw nothing. He noticed, however, that the floor was cleanly swept, and that implied the use of a broom. He asked to see the broom. A corn broom was brought to him, and with it he soon entered the man's bladder. How? some will ask. With the handle? No. With the corn tops? No. He had noticed that the corn tops were bound to the handle with wire; this he quickly unrolled; made a loop at the free end; and as he unrolled he straightened the wire by putting his foot into the loop; bent a piece, gave the doubled end a slight curve, and passed it easily into the bladder. The free ends which remained without the body separated somewhat, and the pent up fluid passed between them.

[Dr. Hingston here showed the ingenious contrivance of a country practitioner, near Montreal, for enlarging an opening in the chest wall, which the inventor called a "thoraco-retrotome." Both blades cut equally on withdrawing the instrument, yet presented no cutting edge on entering.]

It is not always that the devices which were found to be successful in an emergency are put aside for something which might be better, though not so primitive. Some years ago I was present at a meeting of a medical society, not in Canada, it is true, but in one of the more western of the United States. A gentleman from one of the large centres had exhibited an instrument for removing foreign bodies from the nose. He extolled its advantages, was applauded, and everything promised well. I noticed, however, a smile on the faces of many present, when a small nervous man advanced somewhat briskly to the platform. I wish I could give you anything like a faithful sketch of his manner. His style was sharp, his language terse, and personal pronouns were used most sparingly. He commenced somewhat in this fashion: "Mr. President,—Much obliged to the gentleman from the city. Long distance for him to come to show us this instrument; long distance for us out here to send for one. Now, when called to see a child with a cherry or any other kind of stone, or a pea, or a bean, or a bead, or a button in his nose, not going to send all the way to the great city for this instrument, and for the professor to come with it—for that's what it means. Can do without both. Wherever there's a boy with something in his nose that has no business to be there, there is sure to be a woman in the neighbourhood, and wherever there's a woman there's sure to be a hairpin. Now, with the boy and his nose and something in it, and the woman and her hairpin, and a live doctor and his jack-knife, nothing more is wanted. With the jack-knife half open, bend the double end, coax this bent end along the roof of the nose, raise the wrist a little and withdraw with the bent end well down, and if one of the child's toys is there it's sure to come. Would'nt give that instrument (he had made one while addressing us) for the instrument of the gentleman from the great city, and it don't cost as much money. There's not enough of *that* in the backwoods for the professor."

To return from this digression. Although allusion has been freely made to the primitive manner in which surgery is sometimes practised in Canada, it would be an error to conclude that such is by any means its general state. In the larger Canadian cities surgery, in every department, is pretty much what it is in the more favoured centres of Europe. There is, with us, as much refinement in diagnosis ; as much dexterity and courage in performing surgical operations; and as much nicety in the technique. All the cavities of the body—brain, chest, and abdomen—have been explored, and the diseased organs operated upon. Canada follows Europe closely, very closely, in all her work. She has had the boldness—may she be pardoned!—to precede Europe in some departments of surgery. The tongue and lower jaw were first removed together in Canada; the innominate and the gluteal arteries were first ligatured there; and the credit of the first nephrectomy, which writers give so generally to Germany, belongs also to that country. But why should Canada be in any way behind? The better classes of her students, not content with receiving instruction in their own medical schools, pass one, two, and sometimes many years in Europe before commencing the practice of their profession in Canada. London, Dublin, Edinburgh, Paris, Vienna, Berlin are never without a contingent of young Canadian graduates, and, as you well know, many of our medical practitioners periodically visit Europe to add to their stock of acquirements and to renew the zest and relish of professional labour.

The medical schools of the country are modelled after your own. Their reputation for honest work is not unknown to you. The curriculum of medical studies is uniform and uniformly thorough.

In our universities, while the Chancellor is invested with jurisdiction over the members of the university, he has not the power to confer degrees in course upon anyone whose name is not furnished to him by one of the Faculties Degrees in Medicine are conferred upon certificate of the Dean or Master of the Faculty, stating that the candidate has been examined and found to be qualified.

In this respect our universities—Protestant as well as Catholic—are formed much on the model of the ancient University of Dublin, for which Clement V. gave a brief in the beginning of the fourteenth century. In all our medical schools clinical instruction holds a most important place. Hospitals are numerous, and the material at the disposal of the teacher is abundant.

The erection of hospitals has in later years been, with us, the work of individual effort and of private subscription. Hospitals are met with in all large cities in Canada, and sometimes even in the smaller towns. The last hospital erected in Montreal—the Victoria—is the munificent gift of two of her citizens. The first hospital—the Hotel Dieu—is the outcome of female love and heroism. The history of the latter is so strange, so unique, that I may be pardoned if I allude to it at length. When Jacques Cartier returned to France, after his discovery of Canada, the news of his exploit travelled over France as quickly as was then possible. A French girl, described as young and beautiful, became impressed with the thought that the newly-found country should be the scene of her labours. She succeeded, after a time, in fitting out a small barque, with money furnished by a Madame Bullion, and, with twelve sailors, crossed the Atlantic in the spring of 1641. The sea voyage to Quebec occupied three months—it can now be accomplished in one-fifteenth of that time. The journey from Quebec to Montreal by the St. Lawrence, which can now be performed in a night, then occupied eight days. Miss Mance's barque came to anchor at a projecting point off the island of Montreal, then called Hochelaga. Hochelaga was at that time the *chef-lieu* of the war-like Hurons. They looked with amazement at the advent of pale-faced men and one pale-faced woman—for she was alone of her sex. They soon recovered from their surprise, however, and it was necessary for the colonists to throw up for their protection, as quickly as possible, wooden palisades on the land or rear approach; the big canoe, as the barque was styled, was a sufficiently imposing defence in front. If a colonist ventured beyond the palisades to gather fruit or berries, or to cut wood, he ran the risk of being pierced with arrows. Half of the first colonists perished in this manner, and Miss Mance was obliged to return to France in 1649, bringing back with her other recruits; and again in 1658, leaving France with twenty male and female recruits, half of whom died on the voyage of a form of plague. In their attacks on this small force some of the red men were wounded in return, and, when deserted by their comrades, they were brought within the palisades to what they and their tribe considered certain death—according to their own custom in warfare. They soon found the hospital to be a place of woman's tenderest solicitude. When the red man's wounds were healed a repast of dog's meat was prepared for him, and he was permitted to rejoin his tribe to tell what the pale-faced maiden had done for him. It need not surprise us to be told that n the presence of such devotion the warlike Huron soon forgot his ferocity.

A few years later it was necessary for the small colony to move a few hundred yards inland. Word went throughout the Huron Camp, and before the hour of departure the aborigines had strewn the ground with leaves and the branches of trees and with wild flowers, saying the earth was not fit to receive the tread of these women. In this way our first hospital was established, and in this way the light of Christianity was brought to the island of Montreal. Here is how the hospital has been sustained. Miss Mance had obtained from the French King a deed of gift in perpetuity of the small piece of land where she had landed, which, at that time, was valueless. It became, however, in the course of years, the centre of the village of Montreal, and eventually the commercial city clustered around it. A century and a third ago, when Canada passed from the rule of France to that of Great Britain, respect was paid by the conqueror to the rights originally conferred by the French King, and the hospital, which at first had but the aborigines for inmates, continued to receive within its walls, as colonisation went on, persons of every succeeding nationality. For upwards of a hundred and fifty years after its foundation it alone afforded asylum to the sick and wounded of Montreal and westward. How many from these shores, when sick and disabled, have there received maternal care! How many of your children, in that then far-off land, had the pillow of death smoothed for them there, and without fee or pecuniary reward! And the same continues to this day; for the property preserved to those religious ladies by a wise conqueror has, without municipal aid or Governmental patronage, but with economy, sufficed for the wants of the institution.

Between the foundation of this, our first, and the Victoria, our last, hospital, other hospitals have been erected—chiefly the Montreal General Hospital, the Western, and the Notre Dame; and all that generosity on the part of the public, and zeal and ability on the part of the staff, can effect, are prodigally bestowed. Hospitals, some of them on a large scale, are now met with from the city of Quebec, where the oldest in Canada exists, to Manitoba, the most recent.

In my desire to place before you—and the occasion is so rare—a sketch of what relates to professional life in your greatest colony, I fear I am being beguiled beyond the reasonable and the considerate. I shall turn, and for a few moments, to that in which you in the Old World, and we in the New, have a common interest—the division of professional work. I should much wish to follow the various workers in their recent labours, and to include in general propositions the special work in which they are severally engaged. But the past few years have been so fruitful in bold and daring enterprise; surgery, both in its conservative and in its operative aspects, has made such amazing strides, that the task would be beyond the powers of anyone, even if time permitted. Yet the crude impressions of one *ultra mare* may, possibly, not be without interest to you.

There was a time, not yet in the far past, when the human body, in its entirety, came within the scope and purview of the medical practitioner. As the knowledge of cause and effect in medicine became more fully understood; as facts were multiplied and methodically arranged; as the art of healing became so fully developed as almost to permit it to substitute its precepts, and rules, and directions for those principles which are fundamental, and which belong alone to science; and especially, when morbid anatomy opened a new and practically inexhaustible field of inquiry, many men gave themselves up, almost exclusively, to a particular branch or section of medical knowledge, and pursued it with such zeal and ardour —not always, perhaps, for the sake of knowledge, but sometimes (let us hope not often) for the sake of its productive application—that to synthetise and unite again under a common head parts which had been segregated now seems to be almost impossible, even were it advisable, and for two chief reasons:

1. When, in our profession, men of energy devote themselves to any branch of knowledge, and apply their minds thereto with continued attention, they cease to realise that, beyond and around them, there are other branches of our art which are of the same origin, which partake of the same nature, and which cannot be divorced from each other without mutual injury.

2. Although reputed pre-eminence in one department of surgery is admittedly a hindrance to advancement in any other department of the same art; and although pre-eminence narrows the horizon around the worker, and limits the scope and extent of his work; the one so cribbed and confined within those narrow limits, and who obtains pre-eminence within those limits, wins distinction and success more surely and more easily than one not so restricted. "The very narrowness of a man's claims," says a classical writer, "by making them definite and appreciable, is an advantage. The advantage lies in doing a thing which has a name, an appreciable name, and the narrower is the art, the more appreciable are the degrees of merit in that art." One so restricted, provided he excel in his narrow sphere, "will find himself a privileged man in comparison with the philosopher, or the very largest and amplest intellect that ever nature endowed or education expanded."

Now-a-days it is difficult for men, even of superior intellect and of liberal knowledge, to avoid being drifted away into one or other of the narrow rivulets leading from or flowing out of the general mainstream of surgery, and becoming so absorbed in the pursuit of partial truth as not to perceive that it is wanting in many parts; that it is incomplete, unfinished and defective, and can only obtain wholeness when facts are arranged, and when phenomena, however distinct they may appear to be, are brought under a common law. No separate department of surgery, when isolated from its surroundings for the purpose of inquiry, can, of itself, become an art. I cannot emphasise this too strongly. It is only when the mode of reticulation of a part with parts around it is understood, that any particular or special object of pursuit in surgery can hope to be dignified with that name. Each part, each division, each subdivision—in a word, each specialty—is as the separate clauses in a sentence, which are essentially "architectural parts, aiding, relieving, supporting each other." As an illustration, let me take, for a moment, the real or fancied disturbances of the functions of certain organs often considered to be the most important of all the organs, compared to which, in the minds of some, the rest of the body (female I mean) is a mere appendage. In many places men have been bold, and in some places—notably in America—even reckless, in taking liberties with them, removing them, sometimes, as if they were of themselves particular or distinct entities, unconnected with, or uncontrolled by, and having little relation to, a thinking faculty of mind which readily receives impressions, which is easily affected by sensations, and which is quickly disturbed by emotions and passions. Has not quackery gained, has not poor woman lost, and has not our profession suffered in honour and dignity, by the refusal or neglect of the surgeon to seek for parallelisms and comparisons in other departments of the art? or perhaps, as it sometimes happens with uninformed minds, by the inability to consider any question by a process of mental abstraction, without which science—that is to say, knowledge of laws and principles, and the interdependence of truths—does not exist.

Is it not the tendency of many other departments or segments of our art to take a part for the whole, and to give to that part a width, an extent, to dwarf into littleness the limit or exterior line of all other departments? Gentlemen: The exclusion of what is cognate diminishes the value of what is accepted in direct ratio to the value of what is excluded. As the process of analysis has gone on till we can scarcely expect to see it greatly extended, it may occur, it has occurred, to many to ask: Is it not time to hark back upon our course, and to see if—in the interests of the public as well as of our art—a more general synthetising is not desirable, when the approximation of parts which have been divided, and which have been recently kept so much asunder, should not be aimed at?

As long ago as the second decade of the present century, honest John Abernethy, in his remarkably practical essay on the Constitutional Origin and Treatment of Local Diseases, said an evil seemed to him to have arisen from the artificial division of the healing art into the medical and surgical departments. This division, says he, "has caused the attention of the physician and the surgeon to be too exclusively directed to these diseases, which custom has arbitrarily allotted to their care." But medicine, then, was one, and surgery was one. What would Abernethy say to-day, when each section of the human body is apportioned and allotted, and when, paradoxical as it may seem, each part is considered to be greater than the whole?

Whether such specialisation is a mixed or an unmixed good—and I shall not stop to discuss the question—it is the fact that the art of surgery is becoming more and still more divided into an ever-increasing number for special or particular branches of study or pursuit, each branch having its respective province or domain, which, it cannot be denied, is sometimes kept more distinct by an exaggerated estimate of its importance. Yet each must ever remain cognate to, and in close relationship with, every other department of the art, for there are no limits or boundaries to those various departments, and a seemingly intimate acquaintance with one, and a total nescience of others, are crass ignorance of all; for "all are but parts of one stupendous whole," as the poet puts it.

I hope this will not be understood by anyone as an expression of a desire to interfere with the pursuit of any particular course, however narrow it may appear to some, however vast to others. My desire is to *extend* the horizon of each, not to narrow it, by showing that all branches of our art are cognate to each other. So long as there is division of labour, there must, indeed, be division of thought; but the narrow limits and boundaries which it is sought to establish must ever be prejudicial. Part is intimately connected with part, and a full knowledge of the functions of any part, and of its derangements, can be had only by those who have a general knowledge of the disposition and arrangement of other parts, and their countless and never-ending relations to one another in that wonderfully-constructed whole—this body which we inhabit.

In view of what has been said, I am impelled to ask: Has the candidate for admission to the study of surgery that mental outfit which would enable him to weigh well the facts and circumstances as they will be presented to him in professional life? Or is it not too frequently the case that his memory has been loaded—overloaded—with material, for the most part ill-digested, but with a minimum of knowledge worthy to be called liberal; and perhaps, withal, with an almost total lack of the power of logical inference, which is, as it were, the compass which guides the reason amid the treacherous currents of error to the truth? Memory, however retentive, and stored with facts however great in number, never, alone, in our profession, raised its possessor above mediocrity and maintained him there, save when the science of causes and principles was understood, and when philosophy could be invoked wherewith to analyse facts and to place them in relation to other facts which an irrational eye could not see, and which the unphilosophic mind could not understand. Of course I speak not here of genius, which is trammelled by no law save that which belongs to genius.

Never, perhaps, in the history of surgery has the necessity been greater than it is at present to furnish those who are to devote themselves to a cultivation of the art with an adequate mental outfit, to enable them to decide what surgical ailments are from their relations to other phenomena, and to recognise the "consent of the whole constitution with its parts and parts with other parts which may appear to be remote, but which can never be considered quite separately and without reference to an unfailing sympathy—continuous, contiguous, or remote." Accompanying each part or section of the art in its remotest, most intimate penetrail, the facts there gathered, the phenomena there observed, are but segments or fragments of greater parts—of larger phenomena—which the logical mind alone can fairly interpret: for it alone can apprehend those facts and phenomena in their various bearings and relations, in their "strong connections, nice dependencies."

It is urged by those who know not, or who value but little, the advantages which a liberal education confers on its possessor, that it is remote from the use and tenour—the needs and occupations of life—and can be well dispensed with; that its utility is not apparent; that its profitableness is questionable. Looking at the question from a mere financial aspect—and that aspect obtrudes itself now-a-days into every question—it may be admitted that a liberal education may be fruitless in money-getting; it may be inconvenient at times, when men wish to be untrammelled in their interpretation of the duties of life, or may wish to act without reference to any standard of efficiency, or even of dignity. Such, however, can never be the point of view of the members of a profession which, though perhaps somewhat fallen from its high estate in these days of tradesmanlike arts, still claims to be considered "liberal."

Physicians and surgeons have, in every country and in every age, been amongst the most learned and the best informed. To-day the difficulty of preserving that distinction is greater than it formerly was. Education, at one time the privilege of the few, is now the possession of the many; and while the separation of professions and the division of labour tend to the perfection of art, according to Dr. Coppleston, the same learned authority adds: "But, although the art itself is advanced by this concentration of mind in its service, the individual who is confined to it goes back." Is not the conviction sometimes forced upon us that he was right?

It may seem strange to some of you that, coming from a country where schools are thought to be sparsely established, and schoolmasters not always easily procured, I should not wish to have the status of classical education lowered. On the contrary, we in Canada would say to you in Europe: Elevate the standard of classical attainments, and we raise it with you. Require from aspirants to professional honours that most extensive and varied knowledge which, for want of a better term, we call liberal, and we, too, shall demand it. (And here, let me say, I mean by the term liberal knowledge, not classical alone, but something more than classical, though never without it.) Acting independently, every few years, as circumstances permit, we demand more and more of candidates who desire admission to the study of medicine. Within the last two months the Legislature of the Province of Quebec has—to English, French Latin, geography, history, arithmetic, algebra, geometry, *belles lettres* and physics—added philosophy, which, with us, always embraces logic and mental or moral ethics. This is a step in advance of many countries. As that science of sciences " includes, locates and connects, and uses all kinds and modes of knowledge," it will do much to hold together and keep under control every branch of our noble profession, whose members have, in every age, been amongst the most cultivated, and whose social influence—used commonly for good—it is beyond the power of man to measure.

SOME THOUGHTS ON MALIGNANT TUMOURS.*

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Mr. President and Gentlemen,—In presenting to you a few notes from my practice, my attention has been turned to the subject of malignant tumours. In many particulars their characters are not as well understood as could be wished, and the difficulty connected with their early diagnosis is familiar to all surgeons. Reference to this has recently been made by Dr. Bull, chairman of the surgical section at a meeting of the Academy of Medicine of New York (April 27th, 1891), and also by Dr. Satterthwaite in a paper on Sarcomata read before the same Society (Sept. 5th, 1891). But whether an earlier correct diagnosis would result in saving as many lives as might be wished, is a question that cannot now be definitely answered, for the weight of testimony seems in favour of the theory that malignant tumours have their origin in a morbid condition of the system that existed prior to their manifestation, but which is reacted upon and intensified by their development. Many examples also seem to confirm the doctrine that they are at first purely local, but extend to distant points or become general by cell dissemination after their development. But whichever theory we adopt regarding them, we all know that malignant tumours display their malignancy in a somewhat similar manner, and ultimately affect the whole system, interfering with the general health and instituting new and kindred growths in various parts of the system. Time is, undoubtedly, one of the elements required for their fullest malignity, as they all become more virulent and invasive as they grow older ; a young malignant tumour being apparently local in its implication and behaving itself similarly to a benign tumour. Two cases of sarcoma I may relate which seem to strengthen the last assumption.

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A few years ago a farmer, 40 years of age, came to me with a tumour on his neck about as large as a walnut, and situated in the centre of the left occipital triangle. It was freely movable, non-adherent, and seemed as if it required only an incision in the skin to allow it to pop out without any difficulty. He obobjected to any cutting, desiring, instead, "something to rub on." He practised rubbing on various substances for more than a year, coming to me occasionally and receiving the same advice, "have it removed without delay." At last, finding that it had recently grown more rapidly and attained a considerable size in spite of all he could do, he resolved to have it removed. I found it then nearly as large as a man's fist, passing forwards beneath the sterno-mastoid and burrowing down amongst the large vessels and nerves of the neck, ill-defined at its margins, and not movable independently of the tissues in which it was situated. It was plain that his chances for cure were reduced to a minimum ; nevertheless, at his urgent solicitation, I undertook an operation for its removal, assisted by two other medical gentlemen of this city. The extensions and adhesions of the tumour were so great that its complete removal was impossible, and we had to content ourselves with removing what we could. The result was partial healing of the wound, a fungating growth from the portion left behind, extensive suppuration, and, in about three months, death. Microscopic examination of this tumour proved it to be a spindle-celled sarcoma.

Last spring, a blacksmith of about the same age as the preceding patient, came to me with a tumour in every clinical aspect similar to the previous one when it first came under my notice. I removed this at once, and easily, for there were no adhesions, the wound quickly healed, and there has yet been no sign of recurrence. This was also a spindle-celled sarcoma, but of the fibrifying variety. Whether this one would have assumed the same formidable character as the other did it is impossible to say; but my own opinion is that it would have done so.

The manner in which malignant tumours extend themselves is very suggestive. Cancer is proverbially a disease which proliferates by glandular infiltration through the lymphatics, while sarcoma is believed to follow the course of the blood; but I have seen cases of both in which the extension was by metastasis or by such a saturation of the system with the tumour poison that the slightest unusual irritation was sufficient to start a new focus of action.

Nevertheless, in spite of the foregoing facts, I am thoroughly convinced that many malignant tumours, if removed early, would never more be heard of, and the subjects of them would remain free from this dreaded disease unless some lesion occurred in them sufficient to again warm malignant activities into life. I could refer to a number of cases in which I would have operated with, I believe, a satisfactory result, but which, simply on account of being postponed too long, had passed beyond all hope of successful interference.

I have, however, removed several epitheliomata and scirrhi also, where the hope of cure looked very unpromising, but which, however, did not return, and from which the subjects were entirely relieved.

May it not be in such cases as these, that the patients had not that highly developed morbid tendency necessary for a recurrence of the growth, without again receiving some new malignant impression?

Twelve years ago a woman came to me with a large solid tumour in her left breast, which was at that time in a state of ulceration, and exhibited a very ugly appearance and foul smell.

She had already consulted one of the oldest and most reliable medical men of this city, and was informed by him that it was a cancer, and that her only hope lay in its immediate and complete removal. The following day I removed the entire growth and cut wide of the margin of the tumour. No enlarged glands could be found, and so no glands were removed. She was a thin woman, and the portion of skin taken away was so large that I had to make long incisions on both of two sides of the wound, and with the aid of these I could get the wound covered only with strips of skin, leaving open spaces between them. The patient recovered perfectly in a few weeks, and up to the present time she has had no signs of a return of her trouble, although she is now over 60 years of age.

The history of her tumour is as follows: About a year before coming to me she noticed a tumour in her breast about the size of a hickory nut. She showed it to the physician in her neighbourhood, who calmed her anxiety by telling her that it would not amount to anything, to rub on it some tincture of iodine, and watch it closely; and in case it increased in size, to have it removed. This she did, and as it began to enlarge and pain her, and had burst about six weeks before she came to me, she had it removed as stated. There was no gland affection in this case, and it was either not cancer, or, if cancer, the time had not been sufficient for gland-infiltration to take place. Every clinical symptom was that of cancer, but, unfortunately, I had no microscopic evidence to make its nature indisputable.

I have had a large experience in the removal of epitheliomata both by plasters and by the knife, and I have known very few, if any, to return if their extirpatien had been done early enough in their history.

We may for a few moments notice the dissemination of malignant tumours. It is generally held that cancers are carried to other points by the lymphatics and glands, and that sarcomata are diffused by the blood. There is another way, called metastasis, by which malignant tumours gain new positions. I will detail four cases in which the new growth seemed to have come from metastasis, although there might have been lymphatic-duct conveyance of the morbid germs, or, rather, according to my view, such a profound infection of the system that slight variations from normality in another part or organ would start the neoplasm therein. Although scirrhus tumours are less liable to metastasis than the encephaloid and some other varieties, the cases I shall bring forward were evidently of the former kind.

Case I.—I had amputated this lady's breast for a large, hard, painful tumour about six months previously to my seeing her for the last time. Healing was quick and satisfactory, and she considered herself cured for about four months. At the end of this time she began to get short of breath, easily tired out, more or less pain in her chest, and an occasional hacking cough without expectoration. After about six weeks of the foregoing symptoms, constantly increasing, I saw her in consultation, and found the whole left side of the chest dull on percussion and silent on auscultation, except the sound of the larger bronchi. She sank in about one week after I saw her.

Case II.—This lady had been treated by a "cancer doctor" with a caustic application in the form of a plaster. The tumour of her breast had been removed, and her friends considered her in a fair way of recovering. She did not recover strength as expected, her breath became short, she could not sustain any exertion, and felt an oppression inside of her chest. I was called to her, and found a condition quite similar to that of case I. She gradually sank away, and in a short time died.

Case III.—A woman with a large scirrhus tumour of the breast, whom I advised against any operation, as cure was out of the question, and relief would in all probability be for a very short time. She also went to a "cancer doctor" and had a plaster applied. A large hole was formed in her breast, but instead of healing going on as was expected, a large fungating sore was the result, the lungs became invaded, and death followed much in the same manner as in cases I. and II.

Case IV.—This was a woman who had had her breast amputated in Montreal about eighteen months previous to coming under my care; recurrence had taken place, and she desired me to apply a cancer plaster. Because nothing else would satisfy her, this was done ; a large mass was removed, but the morbid growth extended deeper and wider. Very soon symptoms of lung failure became apparent, and a course in most respects similar to the preceding three cases led her suddenly down to death.

In the foregoing cases it is now impossible to say whether the extension of the disease to new localities was due to continuity of tissue, by lymphatic conduction, or by a true metastasis, the last of which might readily occur on account of the saturation of the whole system with the cancer poison and the time necessary for such a result.

In support of the systemic contamination, I will relate the salient features of a case of melanotic sarcoma which occurred in the practice of Dr. Henderson of this city, and which he very kindly communicated to me. The patient was a lady 42 years of age, very good-looking, and in affluent circumstances. When she was first seen by him, July 15th, 1887, a dark-coloured mass about one inch in diameter was discovered a little below the spine of the right scapula, on the site of an old mole. It had been troubling her for about seven months, having begun to grow and feel tender immediately after the last parturition. At this time the margins were hard and slightly raised, and from the centre portion exuded a dark-coloured secretion. On account of the time it had been discharging (about five months), and of its being situated on the site of an old mole, Dr. H. considered it malignant, and at once removed it. On the 28th of the following January the doctor's attention was called to another tumour of the same kind, about as large as a hen's egg, below the site of the original one, and which had been noticed by the lady's nurse since a fortnight after the removal of the first. There were also at this time a small subcutaneous tumour below the right breast, and another the size of a pea on the anterior surface of the left forearm. The skin over these tumours was freely movable, and appeared perfectly normal. On the 30th of January these were removed, the wounds healing by first intention. Two weeks after this operation the glands in the right axilla were found enlarged, and the whole of them were removed. Subsequently tumours continued to form in various parts of the body, and excision was resorted to till about sixty had been taken out. The base of the brain was invaded by the morbid growth and the third nerve implicated so that stasis and strabismus were added to the other unfavourable symptoms. This lady died from exhaustion within two years from the appearance of the first tumour. This case is a remarkable illustration of malignant sarcoma in which gland affection and dissemination through the blood-vessels were present. If not a distinct species of tumour itself, it certainly acted like a compound of both cancer and sarcoma; and one fact is here undeniable, and that is the peculiar tendency of the lady's system to the growth of this sort of tumours, without which I contend that such a development could never have taken place.

Everybody knows that persons afflicted with malignant tumours lose strength and body-weight more rapidly than the demands of the tumour on the system would seem to require, aside from any direct effect it might have upon the organs of nutrition when these are interfered with. Contemporaneously with the growth and development of a malignant tumour the health of its subject sinks below par; which is expressed by saying that there is a malignant-tumour cachexia, and that perfect health and a malignant tumour cannot exist in the same individual at the same time. The frequent recurrence after removal of all malignant tumours is another proof of the constitutional contamination attendant upon them.

Tumours occur on the site or at the edges of the scar where one has been removed; in the lymphatic glands connected with the tumour by lymphatic vessels; at irregular points, wherever the blood-currents may have carried and left the morbid germs.

What, now, is the ætiology of malignant tumours? Many theories have been advanced, none of which seem quite satisfactory, and it is devoutly to be wished that a satisfactory basis of agreement on their causes could be arrived at.

Some of the causes which have been enumerated by writers on tumours are the following: 1, Heredity. 2, The effects of irritation and injury. 3, Physiological activity and decline in the body. 4, The "inclusion theory" of Cohnheim (embryonic hypothesis). 5, Certain articles of diet. 6, Unhygienic surroundings. 7, Infection.

In regard to the first—namely, heredity—I have never seen any cases which seemed in the least to favour this view. I have observed several cases in which tuberculosis in parents or relations has seemed to alternate with cancer in other members of the families, and *vice versâ*, but not directly transmitted.

The consequences of sudden injury or prolonged irritation have, in my experience, been prolific sources of malignant tumours, both sarcomatous and cancerous, although other observers have not been able to regard them as such.

Physiological activity and decline of the body may account for the origin of a few tumours, but there are many characters belonging to tumours which oppose this origin, as their heterogeneity, their occurrence in various conditions and at various periods of life.

The "inclusion theory" of Cohnheim, which defines a tumour as an "atypical new formation starting in a latent embryonic rudiment," is scarcely tenable except for a few homogeneous tumours of early life, or heterologous ones of later life, whose structures resembled tissues of an earlier stage of development. This theory has satisfied, better than any other, some of the requirements in the causation of tumours, and may for the present be still left under the domain of investigators.

Certain articles of diet have been accused of giving rise to tumours, as tomatoes for cancer.

Unhygienic surroundings has been taken into the catalogue of causes, and there is no doubt that such a condition promotes both the development and malignancy, whether it can prove their starting point or not.

Messrs Shattock and Ballance are trying to prove that infection is the true cause. They regard cancer as a parasitic disease, and believe that the germs can be communicated from animal to animal. They aver that it has been transmitted from dog to dog and from rat to rat, but not yet from an animal of one species to that of another. Nevertheless, whatever view we may take of the ætiology of malignant tumours, obscurity and conjecture limit our field of vision, and we are left to grope our way very much in the dark.

From 75 cases which I have been able to recall from the records of my own practice, and all of which have been personally cared for by myself, I have formed the following conclusions which I think are pretty well proved—namely, that there is required a predisposition in the body for the developing of malignant tumours, and, secondly, some source of irritation to excite this tendency into activity. Out of 25 cases of epithelial cancer which I have analysed, I find that nearly all of them followed the receipt of injury or irritation. Thirteen of them were directly traceable to smoking a short-stemmed pipe which delivered hot and pungent smoke always on the same spot. Three cases of the glans penis were undoubtedly due to retained smegma preputii caused by phymosis ; several others followed on the site of warts which became irritated ; one on the lower lip was due to the stroke of the end of a whip-lash and one to the blow of a small stone ; and another case, one of cancer of the lower end of the œsophagus, was unquestionably due to the constant irritation of alcoholic liquors. The subject of it (one of our own profession) had been an incessant drinker for many years. For months before the malady manifested its presence, or in any-way began to interfere with his habits and pursuits, he became conscious of a failure of strength and body-weight which he could not refer to any known cause. Later on he began to experience a smarting and burning sensation in his throat after drinking anything strong, and to be troubled with symptoms in the lower part of his thorax which he thought due to bronchitis, because he was aware that several of his relations were phthisical. He continued to grow worse in every way, and died at the end of about a year and a half from the onset of his throat and chest troubles. A post-mortem examination revealed a cancerous condition of the lower third of the œsophagus, the greater portion of which was in a state of ulceration, and exhibited cancer nodules and thickening of the walls throughout the superior portion of the cardiac end of the stomach.

There may or may not be a sufficient foundation for considering heredity one of the predisposing causes of cancer, but here occurred a coincidence, to say the least of it, in the fact that not long after the death of the aforementioned patient I removed an adenoid cancer from one of the breasts of his oldest sister, a woman about 55 years of age.

I may take the opportunity here to add further that the father and two sisters of this couple had died from pulmonary consumption, and that since the period referred to, two others of the family have been victims of consumption.

Of another case of epithelioma enumerated in my list, of which tobacco-smoking was the exciting cause, the subject was one of a family amongst which five of his brothers and one uncle had perished from pulmonary consumption. This man had always been a heavy drinker, and was greatly in the habit of boasting of what whiskey had done for him—kept him, as he would say, from following his relations to the graveyard. He was a constant smoker as well as drinker, and always held his short pipe in the same position, so that the jet of smoke always impinged upon the same spot in his mouth. He told me that one day as he was enjoying his pipe he felt a sharp prick, like the sting of a bee, penetrate the point where the smoke "struck his mouth," as he expressed it; and so sudden and severe was it that he removed his pipe and felt the spot with his finger. A little tubercle about the size of a small shot was perceptible to the touch; he thought it of no significance, and paid no more attention to it at that time. However, the lump did not go away, but got larger, and soon became so painful when the smoke was allowed to strike upon it that he had to change the position of his pipe to the other side of his mouth. Suffice it to say that it grew and developed its malignancy rapidly, invading glands, destroying tissue, contaminating his system, interfering with nutrition, and finishing its ravages in death in fifteen or eighteen months from its first appearance.

These two cases seem to me worthy of note, because in two consumptive families, one male member of each was a steady drinker of alcoholic liquors; both escaped lung disease, but died at about the same age—55 years—of cancer.

Conversely, I attended a family some years ago, the father of which died from epithelioma, and nearly all the children were disposed to skin and gland diseases of one sort or another, and one of the daughters was decidedly phthisical.

These are suggestive examples, and may start a train of thought that may lead to profitable results. I cannot hold that the morbid entity of cancer is an allotropic condition of that of phthisis (to borrow a chemical expression), for of this I have not sufficient pooof; but I do hold that there is a constitutional fault underlying them both, and which seems to be, under certain circumstances, interchangeable when transmitted from parent to offspring.

With reference to several adenoid cancers, about twenty scirrhous cancers, and six or eight rodent ulcers, I have not time now to speak, further than to say that four of the rodent ulcers originated in a wart or mole of many years standing; two of the scirrhous tumours were directly traceable to a bruising of the parts whence they originated, and one followed on the products of an unresolved inflammation.

I have recalled the histories of about twenty sarcomata, amongst which all the four divisions of round-, spindle, mixed-, and giant-celled sarcomata have been found, including the varieties of osteo-sarcoma, periosteal sarcoma, fibro-sarcoma, chondro-sarcoma, and keloid, which is by some classed among the sarcomata to which it seems akin.

The most discouraging feature in the character of the sarcomata is their tendency to recur, not along the lymphatics or in the glands, or at the edges of the scar formed by removal of previous ones as the carcinomata are so prone to do, but at irregular and sometimes distant points, where the cells have been carried by the blood-vessels and nourished into activity by a predisposed condition of part or system. A few striking examples are all that I can inflict on your patience.

R. P., aged 22, had a tumour about as large as a small goose-egg at the upper part of the popliteal space. It was removed, and nothing could come out more cleanly and beautifully than it did. Healing by first intention rapidly followed. About six months after the operation three tumours had made their appearance—one, two inches above the old scar, and the others situated at either side of this one, but a little lower down. These were removed in the same satisfactory manner, healing following immediately. Three months later patient presented himself again with the lower part of the thigh completely studded with tumours. Amputation of the thigh at the junction of the middle and upper thirds was practised; healing followed as usual. Within six weeks after leaving hospital he returned with the stump increased to double its normal size and consisting literally of a mass of tumours. He desired re-amputation, but was informed that it would be utterly useless. The mass continued to enlarge enormously, and in a few weeks he died from exhaustion.

A case of osteo-sarcoma in the head of the tibia came under my notice a few years ago. Amputation above the knee was practised; healing followed without delay, and himself and friends were rejoiced at his recovery and freedom from disease. About five months after the amputation the stump began to swell and the bone to increase in size, and unmistakeable signs of recurrence to manifest themselves. I was called to see him again, but could advise nothing, only to let him alone; this was done, and a few months after he died, wasted and exhausted from his sufferings, the stump meanwhile greatly enlarged.

A year ago last spring a beautiful young girl was brought to me with a tumour as large as a big goose-egg in the upper part of the popliteal space of the left leg. The tumour was red and the skin inflamed, and so deeply was it imbedded in the tissues that its removal looked to be a formidable operation. It was moveable, however, and hence I undertook its extirpation. It came out beautifully, having well defined walls and no attachments except the blood-vessels that nourished it. Healing was completed in two weeks, and the young lady returned to her home rejoicing. A few weeks after she went home she slipped and strained the parts where the scar was, and very shortly after she perceived a "hard lump" rising up just above the scar of the old cut. About six weeks after she was brought to me again with a tumour larger and more angry-looking than the previous one, and, moreover, with the system greatly deteriorated from anxiety and suffering. The tumour had now assumed the hemorrhagic variety, and the whole limb was greatly swollen. Her strength rapidly failed, and in a few weeks death from exhaustion closed the scene. This was a case of small round-celled sarcoma with scarce a trace of fibrous tissue throughout its substance. We all know that recurrence in the manner described is the rule for sarcomata.

To my mind, it is plain that the system must be in some peculiar condition before any of these tumours can develop; and with the proper condition present their recurrence is a natural sequence. What that peculiar condition is it is not so easy to determine, and may be accounted the puzzle of the present time.

We know that wheat will not grow in a marsh, nor rushes on high, dry land. The soil must be conditioned to the seed that is to grow upon it or there will be no vegetation. So with the animal body, unless there is in it some pre-existent condition adequate to the growth and development of disease, disease cannot take place. A tumour must find the necessary conditions for a tumour before it can grow, and a sarcoma cannot play the rôle of a cancer. Now just what these conditions are in each particular case, and what will plant the germ that grows and develops into one or another of the various kinds of tumours, we are endeavouring to ascertain. I feel that I have thrown but very little light on the subject. nevertheless I believe I have indicated the course in which investigation must proceed to reach a satisfactory conclusion. While we seek for the germs of cancer and sarcoma, we must also seek for the peculiar condition of system in which they will mature, for we do not believe that, like the infecting germs of small-pox and syphilis, they will take root and flourish anywhere and everywhere they may chance to fall.

If I shall have provoked inquiry into this obscure corner of pathological science I shall feel that these imperfect histories and observations have not been made in vain.

Correspondence.

LETTER FROM BERLIN.

BERLIN, June 5th, 1892.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS,—As I am now in Germany, specially interested in the gynæcology and obstetrics, and have been attending Professor Sänger's klinik at Leipzig, I thought that perhaps a few notes of what I have seen there may be of some interest to the younger members of the profession, who have not as yet seen his work.

I may begin by a short sketch of the professor's personal history. Sänger is a native of Bavaria, of Jewish parentage, about 39 years of age, and was for several years assistant to the late Professor Credé, and came into prominence chiefly owing to his great and original work in reference to the Cæsarian operation. In his first paper, published in 1882, Sänger studied fully the behaviour of the uterine wound in this operation, in order to form a basis for the correct principles governing its surgical treatment, by a suture adapted to the physiological peculiarities of the uterus. It is chiefly, then, owing to the improved methods developed by him that the Cæsarian section, at one time almost abandoned in despair, become again the legitimate operation for the majority of surgeons, superseding the Porro operation, which was reserved for certain cases only. His own results in this operation, as told me by himself, are as follows: He has done the operation up to date, in all, nine times, saving mother and child in every case except in one, in which the child was dead in utero three weeks before operation, owing to uterine contractions set up by the presence of a myoma in the pelvis. He is a frequent contributor to medical journals in almost every department of gynæcology, and, although still so young, is a Professor Extraordinary of Leipzig University, and has been made an honorary member of several European and American gynæcological and obstetrical societies.

Like most abdominal surgeons, he has his own private hospital, which can accommodate about thirty patients. The operating-room is large, well lighted and well ventilated, and kept scrupulously clean. The operating table, devised by himself, is made of zinc, and has an arrangement for placing the patient in Trendelenburg's position when necessary. The tables for instruments, etc., consist of iron frames supporting glass shelves. Chloroform is the anæsthetic almost entirely used, but many of the minor operations on the cervix, as well as anterior colporrhaphy and curetting of the endometrium, are done without anæsthesia.

In the treatment of retroversions of the uterus in movable cases, after replacing the uterus a Hodge's pessary is introduced; if not satisfactory, a Thomas pessary is tried, keeping the patient, however, under observation for some time, as this form of pessary is apt to cause abrasions. In fixed cases, in which the uterus cannot be brought forward, owing to adhesions, an exact diagnosis must first be made under anæsthesia, avoiding cases complicated with pyosalpingitis, or in which there is elevation of temperature. Under anæsthesia, an attempt is made to break up adhesions and replace the uterus. If successful, the treatment is then continued by practising massage of the uterus at regular intervals, after the method introduced by Schultze. By this method I have seen cases completely cured of all their symptoms, and it is generally successful if the adhesions are of comparatively recent date. Should this method fail, the abdomen is then opened, the adhesions separated, and the uterus brought forward and kept in position by ventrofixation.

Sänger does not approve of the rapid forcible method of dilatation of the cervix, but still adheres to the old one by laminaria tents, and has no trouble with them when properly sterilized. In stenosis of the cervix, three tents are introduced in succession. The first is allowed to remain for twenty-four hours, morphia being given when necessary to relieve pain. Then it is removed and the uterine cavity irrigated by sublimate solution 1–1000, and a second introduced, and so on till the dilatation is completed. The gradual method of dilatation, by packing the cavity of the uterus with strips of iodoform gauze, first introduced by Prof. Vulliet of Geneva, has also given satisfactory results in Sänger's hands.

The after-treatment of his laparotomy cases varies somewhat from the rule I have seen followed. On the first day after operation, when vomiting occurs, the patient gets nothing, otherwise a teaspoonful of hot tea is given every quarter or half hour. On the second day the same, but in greater quantities. On the third day coffee, and from this on till the eighth day bouillon without solids. Castor oil is now given every third day, and the patient gets solid food regularly.

Sänger has no faith in Tait's theory in regard to the good effects of salines after abdominal sections, so none are given. Morphia is freely administered when necessary to relieve pain. The superficial sutures are removed at the first change of dressing on the 10th day, and the deep ones on the 14th. On the 18th day the patient is allowed to sit up in bed, on the 19th out of bed, and is, as a rule, discharged on the 21st.

As Sänger is one of the most conscientious aseptic surgeons I have yet seen, some of his methods of sterilization may, perhaps, prove interesting and profitable to those not familiar with some of the latest and best methods, and I will try to briefly state some of them.

Sterilization of patient for abdominal section.—Patient is given a bath twice by the nurse the day before operation. The parts are then shaved, and a towel saturated with sublimate solution kept over the abdomen over night. Immediately before operation the parts are again scrubbed with soap and hot water, then with ether, and finally with sublimate solution. Plain gauze, sterilized by steam for two hours, is then laid around the field of operation.

Suppurating and fetid cases are, as a rule, not admitted into the private klinik, especially cases of puerperal suppurative parametritis.

Sterility of hands.—First thoroughly scrubbed with hot water, common soda soap, and fine sand (mechanical disinfection) for about fifteen minutes, paying special attention to cleansing of the nails. They are then washed in strong solution of permanganate of potash till the skin is thoroughly stained, then in saturated solution of oxalic acid till decolourised. This method was first worked out and put in practice by Professors Kelly and Welch of Johns Hopkins Hospital, and published by them in their joint works on "Sterilization of the Skin," although it had, before that time, been used in pathological laboratories. It has also been used here to sterilize the abdomen and genitals before operation.

Sterilization of instruments.—Are first boiled in Professor Bergamen's apparatus for five minutes in a 1 per cent. solution of carbonate of soda. After operation the instruments are washed in hot water and then allowed to stand for some time in a solution of carbonate of soda and soap. After that they are polished first with alcohol and powdered pumice-stone and finally with chamois skin and alcohol.

Sterilization of silk.—Is first boiled five to ten minutes (but not longer) in 1 per cent. carbonate of soda solution and then kept in Bergman's solution, which consists of alcohol 800, corrosive sublimate 10, and distilled water 200.

Sterilization of gauze.—Is exposed to steam for two hours in Thursfield's sterilizer, nnd then placed in sublimate sol. 1–1000. Before operation it is washed out in water sterilized by boiling. Sublimate solutions are made with filtered water. Plain sterilized gauze is used instead of sponges in plastic operations, irrigation being used only when the field is very bloody.

The flame of the spirit lamp is used to sterilize instruments that happen to fall during operation. It is also used to burn through the silk ligatures instead of cutting them. In this way the ends of the silk ligatures become dried and stiffened, and the needles threaded with much greater speed.

Sterilization of laminaria tents.—First thread with sterilized silk, then boil one minute in 5 per cent. carbolic solution; then give the proper curve, and keep in glass-stoppered jars in solution of iodoform and ether.

As a plastic surgeon Sänger specially excels, and many of the newer gynæcological operations done by him are either original or modifications of his own of operations originally devised by others. As regards himself personally, I am convinced that no one intimately acquainted with him can help admiring the great and many gifts of mind and heart which he possesses. Those qualities which, perhaps, impress us most in him are his courtesy, his modesty, his enthusiasm in his profession, and his absolute truthfulness and honesty in regard to his statistics. Although lacking that stimulus to hard work which teachers find in their pupils (for let it be remembered that his position in the university is purely an honorary one), he has already won an honourable name in his profession, and, we have every reason to hope, will, in the future, continue to be an active and original worker in the field of medical science.

After spending three months in Sänger's klinik I came on to Berlin, and have been taking Martin's course. It includes a course in gynæcological diagnosis, an operative course on the cadaver, and the privilege of being present at his abdominal sections and most of the minor operations. Martin is the most wonderful operator as regards speed I have yet seen, and his results seem to be all one could reasonably wish for. About two weeks ago I saw him do no less than nine abdominal sections, beginning at 10.45 A.M. and ending before 3 P.M., and this including time for lunch. The actual aggregate time during operation on these nine cases (by which I mean the time occupied from the first incision till the dressing of the abdominal wound) I reckoned by the watch to be exactly two hours and ten minutes. Moreover, most of these cases were trying and difficult ones—*e.g.*, the exfoliation of a renal cyst as large as a pregnant uterus at full term, complicated by extensive adhesions to most of the abdominal organs, this occupying but 32 minutes; two cases of enucleative myomotomy, one occupying but 15 and the other 18 minutes; three of them were cases of pyosalpinx with ovaries and tubes almost buried in adhesions. We had an opportunity of seeing all these nine cases on the third day after operation, again on the sixth day, and finally on the tenth day, and all were apparently doing well, judging by the temperature charts and the comfortable expression of their countenances. In the third of these cases the diagnosis was not definitely made before operation. On opening the abdomen the peritoneal cavity was found to be filled with dark fluid blood, the source of which was soon discovered to be a ruptured tubal pregnancy. The tube was at once tied off, the blood with numerous small clots mopped out with sponges, and the abdomen closed without irrigation or drainage. The speed with which a surgeon does an operation is said to be largely a matter of temperament, but in Martin's case there are several reasons to account for it. With his exceptionally large experience in this kind of surgery, he knows at once the quickest and best methods of dealing with difficult cases, and his assistants, trained as they are for years in his own methods, are able on that account to render him much valuable assistance and save much time to the operator. Then, again, any trifling bleeding in the abdominal wound or peritoneum he regards as harmless and wastes no time over it, provided asepsis is rigidly carried out. Further, he never seems to think it necessary or advisable to irrigate the peritoneal cavity, and except, perhaps, in cases of abscess cavities, he has entirely given up drainage. In one of the cases of pyosalpinx referred to above, the tube was ruptured in attempting to separate it from its adhesions to the back of the uterus, and pus escaped into the peritoneal cavity, yet no irrigation was considered necessary. In the removal of diseased appendages, he is as conservative as possible, never removing them completely unless hopelessly diseased. Any sound portion of the ovary, which may appear still capable of performing its physiological function, he leaves behind, tapping innocent-looking small ovarian cysts or cases of hydrosalpinx, after the method practised by some American gynæcologists. His method of abdominal enucleation of the two moderately large submucous uterine fibroids mentioned above was as follows: Abdominal incision extending from symphysis pubis to beyond umbilicus, the uterus with its tumour was then grasped and partly pulled out through the abdominal wall; after two or three sweeping incisions into the uterus the tumour was reached, and in a few seconds shelled out of its cavity. After curetting the endometrium from above, the uterine cavity was closed off from that left by the tumour by buried continuous catgut sutures extending to, but not including, the mucous membrane. The tumour cavity was then closed from below upwards by a series of continued and buried catgut sutures, tier upon tier until the surface was reached. The edges of the wound were then accurately brought together, and finally a series of deep silk reinforcement sutures were passed wide from the margin. The uterus was then dropped into the peritoneal cavity and the abdomen closed.

His method of total extirpation of the uterus seems simple, and involves extremely little loss of blood. When cancer of the cervix is also present, the diseased portion is as much as possible removed and the cervix closed by sutures before proceeding to extirpation. After thorough disinfection of the vagina and cleansing of the rectum the vaginal vault is exposed by means of perineal and lateral retractors. The cervix is then grasped in its posterior surface by tenaculum forceps and drawn as far as possible forwards toward the symphysis. By this means the posterior vaginal vault is put on the stretch, and the vaginal insertion to the neck of the uterus can, as a rule, be clearly made out. Then an incision is made in the whole breadth of this insertion, in its greatest possible extent, in order to reach as soon as possible the Douglas' pouch. When the connection between the cervix and vagina is but slightly developed, the opening into Douglas' pouch quite frequently follows with the first incision. Should this attachment be broad, then the opening into Douglas' pouch may be difficult and troublesome, and so much the more so the further one must go in order to reach the limit of attachment. As soon as the peritoneum is opened the incision is enlarged, so that the left index finger can be introduced to act as a guide to the passing of sutures and the line of incision. Then with a short, strong, curved needle, armed with stout throad, the vaginal edge of the cut surface is united in its whole extent to the peritoneal edge. All bleeding in this way must be arrested before proceeding further. The needle is passed from the vagina through the peritoneum, and then, again, from the peritoneum through the vaginal mucous membrane, and the ligature tied always on the vaginal side. As a rule, five of such sutures are required. When the opening into the peritoneum is difficult, and important bleeding takes place, the broad wound surface may be sewed in the same way to the vagina until the deeper tissue is pulled down by tissue forceps, and the peritoneum opened and its edge united as before to the vagina. Any important bleeding from the uterus may be easily arrested by passing ligatures through its cut surface. The base of the broad ligament on each side is then tied off and divided in the same way, using, however, a stouter needle and armed with double thread. As a rule, three of such sutures are required. The separation of the bladder from the uterus is begun by cutting with the knife in its whole breadth directly towards the cervix and continuing the separation with the finger-nail. By passing a large silver catheter into the urethra and turning the concave side forward the line of separation may be more easily made out and all danger of wounding the bladder avoided. With small, fine sutures the peritoneum in front is united to the vagina as before. The fundus of the uterus can now, usually without much trouble, be brought down from behind, provided the cervix is drawn well forward behind the symphysis. The rest of the broad ligament on each side is now transfixed with the needle armed with double thread, the threads interlocked and tied on each side, and the uterus completely separated. The stumps of the broad ligaments are turned into the vagina, and the opening closed by uniting the peritoneum of the bladder with that of the rectum.

In his operations, Martin almost entirely uses catgut, and in the form of the continuous suture. It is prepared according to Bergmann's method as follows :

1. Sterilization of glass holders by exposing to action of steam for three-quarters of an hour.

2. Winding of catgut thread on glass spools.

3. Removal of fat from raw catgut by soaking in ether for twenty-four hours.

4. After pouring off ether, the catgut is immersed in Bergmann's solution, the formula of which has already been given.

5. Renewal of sublimate alcohol every twenty-four hours. At the earliest, after twice renewal of sublimate alcohol is the disinfection process completed.

6. Sublimate alcohol is now poured off and plain alcohol added. According as somewhat stiff or very soft catgut is required, the alcohol used is absolute and pure or 20 per cent. glycerine is added.

A. W. G.

OUR LONDON LETTER.

LONDON, Aug 10, 1892.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

DEAR SIRS,—I have thought that the following notes on the modern methods of treating *Tineæ Tonsurans* might possibly be of interest to some of your readers :

As is well known, few parasitic affections are more obstinate and intractable than the common ringworm of the scalp. The reason for this is no doubt the difficulty experienced in getting at the very troublesome little trichophyton fungus, on account of the depth to which it makes its way into the tissues, especially in the hair follicles themselves. That the fungus is readily destroyed by many of the parasiticides commonly employed for the purpose is proved by the comparative facility with which the disease is cured, when it affects the skin only. Even the more severe eczema marginatum or "dobé's itch" of tropical climates (so common amongst the natives of India) is readily controlled by the application of Goa powder, or of its active principle, chrysarobin.

The chief difficulty, then, with which we have to contend in treating the corresponding affection of the hairy scalp is that of bringing the parasiticide employed into effective contact with the fungus. A short account of the methods now in use, for the attainment of this end, in the hospitals of London may prove of interest to your readers.

First as regards the removal of the hair. In some cases, cutting it short in the vicinity of patches of ringworm, where these are not very numerous, is deemed sufficient. In many skin hospitals, however, shaving of the scalp is always insisted on. Both these methods fail in one particular, since obviously they leave the affected roots of the hairs safely imbedded in their follicles, and to this extent interfere with the entrance of the application which it is intended to use. Epilation is undoubtedly a more effective method, especially where the disease is of limited area. If the child is not too young, and the disease not too diffuse, this should be the first step in the treatment. The affected hairs are, as a rule, already loosened, and, with patience, can be successfully removed with epilation forceps, a cocaine ointment (10 per cent. in lanolin) being first applied if the patient is young and nervous.

For direct application, ointments are at once the most convenient, and in some ways the safest applications. Lotions made with spirit, æther and chloroform are more apt to irritate the scalp, especially in the case of young children.

A recent and important improvement in the treatment of this disease is the use of *lanolin*, instead of vaseline or the animal fats, as the basis of the ointment employed, since it is undoubtedly more penetrating than these latter. Lanolin is, however, too sticky to use alone, and must be mixed with a fourth part of olive or almond oil. It is a good plan, too, to apply the ointment with a stiff brush, rubbing it in twice a day or oftener, instead of merely smearing it on the surface.

At the Blackfriar's Skin Hospital a favourite application is :

Acid salicyl., acid carbol., āā ʒss.
Lanolin, vaseline, āā ℥ss.

In older patients or obstinate cases the carbolic and salicylic acids may be increased to ʒi of each to ℥i.

At the University College Hospitol, oleate of copper, ʒi to ʒiii to ℥i, and oleate of mercury 5 to 20 per cent., are common applications. These penetrate well. Their strength, however, requires to be carefully regulated. Dr. Crocker also recommends hydr. perchlor. gr. iii dissolved in ʒi of spirits of wine and turpentine ℥i.

At the Middlesex and London Hospitals, carbolic and salicylic acids, sulphur and chrysarobin ointments are in use. The last mentioned, whilst effectual in some cases, has the disadvantage of staining everything it comes in contact with, even the hair itself being discoloured.

Paul F, Mundé is alone sufficient to increase the already well-established confidence of the profession. The bracketed difference of opinion must be, at times, a source of difficulty, though, as a rule, the better of two good ideas may be readily chosen. It is needless to dwell on the classification. It is beyond all question excellent. The chapter on pessaries is particularly acceptable, clearly demonstrating that their intelligent application is necessary to the successful treatment of the dislocated uterus. The authors claim it to be as difficult to treat displacements of the uterus without pessaries at ague without quinine. In ovariotomy, their after-treatment has the merit of novelty and practicability. The bowels are kept patent from the beginning by the daily use of a saline, sulphate of soda, and the patient is moved occasionally on one or other side within six hours after the operation. The reviewer recently operated on these lines and with the most gratifying results. To say nothing of the greater claim to uninterrupted recovery, the ease and comfort to the patient can be readily understood.

Though these two chapters are specially alluded to, all are alike meritorious, and will well repay careful perusal and study.

Anæsthetics, their Use and Administration. By D. WILMOT BUXTON, M.D., B.S., &c., Administrator of Anæsthetics and Lecturer in University College Hospital, the National Hospital for Paralysis and Epilepsy, and the Dental Hospital of London. Second edition, revised and enlarged. London: H. K. Lewis. 1892.

This is evidently written by one who has practical experience of his subject, and on that account it is more valuable than if it was simply a theoretical treatise on this important but neglected subject. The various forms of apparatus used in the administration of anæsthetics are clearly described and also illustrated by cuts. The chapter on the "preparation of a patient and choice of an anæsthetic" is particularly good, the various conditions influencing a choice being distinctly, yet briefly, stated. More space should be given to the accidents of anæsthetics, and more stress laid upon inversion of the patient in syncope. No mention is made of hot water as an application to the præcordium in heart failure, and of ice water forcibly thrown against the epigastrium in respiratory failure. The work is well worth reading, and will repay the time so spent.

The Physician Himself and Things that Concern his Reputation and Success. By D. W. CATHELL, M.D. Tenth edition; thoroughly revised, enlarged, and rewritten; 348 pages. Philadelphia: The F. A. Davis Company, 1231 Filbert street. 1892.

We welcome the new edition of this book, which is now so well known that it requires little comment. It is brought well up to date, and should be in the library of every member of our profession. The author has succeeded in carrying out the ideal with which he started, to harmonize his teachings with the advice given by the Bishop of Lonsdale to those who came to him inquiring the way to heaven—" Turn to the right, then go straight forward."

Braithwaite's Retrospect. Vol. CV. January to June, 1892. Uniform American edition. New York: G. P. Putnam's Sons.

This volume contains the cream of English medical literature for the first six months of the present year. It is well indexed and forms a most useful book for reference. It is up to its usual standard, more than which it is not necessary to say.

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Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, June 24th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Interscapular Thoracic Amputation for Enchondroma.—DR FINLEY exhibited this specimen for Dr. Shepherd. The growth was a large globular tumour, about five inches in diameter, and was attached to the inner side of the surgical neck of the humerus, lying beneath the muscles passing from the scapula to the humerus. For the most part it was of cartilaginous consistence, but to the inner side there were a few cysts containing a colloid material. The tumour had encroached slightly on the scapula, causing some thickening of the dorsal axillary border of that bone. Microscopically, the greater part of the tumour was made up of cartilage, many of the cells being small and irregular, others large with two nuclei, and a few showing two or three cells in each capsule. The cystic portion of the growth showed a portion to be made up of structureless material, with here and there infiltration of small round cells.

DR. SHEPHERD said the patient was a woman, aged about 32, who said she had first noticed the growth four years before. It gradually increased in size, and for the last year the arm had been very painful and was so fixed that it was useless. Dr. Shepherd at first thought the disease originated in the scapula, and that the affection in the humerus was secondary, but on examination after removal it was found that the disease was primary in the head of the humerus, and that the scapula was only slightly involved, the chief disease being in the muscles. The growth in the axilla pushed out the scapula, giving it the appearance of being extremely diseased. The arm and scapula were removed at one operation. The clavicle being free from disease, was not removed, and this gave the shoulder a much better appearance in consequence. Dr. Shepherd remarked that the operation, which is more formidable than dangerous, is usually performed in two stages—first amputation at the shoulder joint, then excision of the scapula. The mortality is 20 to 30 per cent. The operation was first performed in 1838 by McClellan of Philadelphia, and afterwards by Syme and Ferguson. The patient whose history has just been narrated recovered rapidly, and was going about on the fourth day after operation.

Nephrectomy.—DR. SHEPHERD exhibited a kidney which he had removed on May 26th. The patient, who had been under the care of Dr. Fenwick, had suffered from symptoms of renal calculus for about twenty years. Last August Dr. Fenwick removed a large branched calculus from the kidney; the wound healed up well and the patient went about all winter. After a time, however, pus began to appear in the urine, and within a few weeks a tumour developed over the region of the kidney, the patient suffered great pain and began to fail in health. Dr. Shepherd, at Dr. Fenwick's request, took charge of the case, and decided to operate after much hesitation, on account of the amount of cicatricial tissue that would be present. The kidney could only be removed in pieces, the central portion with the vessels being imbedded in a large mass of cicatricial tissue. Whilst looking for the vessels and dissecting out the hilus a free hemorrhage occurred, which could not be easily arrested, the tissue allowing of no ligature; so a forceps was left on and the wound packed with iodoform gauze. The forceps were removed at the end of forty-eight hours. She suffered much from shock after the operation, but recovered fairly well. After a week's time there was a sudden severe hemorrhage. Dr. Bell happened to be present and packed the wound. On the following day a second hemorrhage occurred. A consultation was held and the packing carefully removed; at the bottom of the wound was seen the vena cava and some sloughy tissue, which, when pulled away, caused severe hemorrhage. On placing the finger in the wound to stop the bleeding it was found that there was a large opening in the vena cava; plugging was of no avail, and the patient, who was already reduced by frequent losses of blood, died in a few minutes. The fatal result occurred just eleven days after the operation, and Dr. Shepherd did not think that anything further could have been done. The other kidney was probably also affected, as pus remained in the urine after the operation.

Wound of the Femoral Vein in Hunter's Canal.—DR. SHEPHERD exhibited a portion of the femoral vein in which was imbedded a piece of metal. The patient had been wounded by a piece of a metal fog signal, which struck him in the thigh; the hemorrhage from the wound was very profuse, but was stopped by pressure and linen packing. He had been taken to the General Hospital, where the house surgeon had stuffed the wound with iodoform gauze. When Dr. Shepherd saw the man oozing was still going on, so he decided that it was a case for immediate investigation. He quickly cut down, found the sartorius muscle cut across and blood coming from Hunter's canal, and on examining further, a large wound was seen in the femoral vein. He tied the vein and removed a portion of it, which was found to contain the piece of the metal from the fog signal. The man made a complete recovery, and has had no œdema of the leg.

Intestinal Obstruction due to a Large Gall-stone.—DR. JOHNSTON gave notes of the autopsy on a case under the care of Dr. Armstrong. The patient had a large hernia in the abdominal wall, on the right side of the umbilicus, and in which a large portion of bowel was present. A fæcal fistula had existed at one time in the region of the hernia, but was healed at the time of the autopsy. There was no peritonitis, no strangulation of the bowel. The upper part of the small intestines was distended with fluid fæces, while the lower part was collapsed; just where the ileum passed into the hernial sac a large mass could be felt, which proved to be a gall-stone about the size of a walnut, and fascetted. On examining the intestines, a fistulous opening between the head of the gall-bladder and the second portion of the duodenum could be seen; the gall duct was somewhat dilated and contained some small stones, but there was no obstruction in the common duct. The patient had been subject to attacks of colic, and became quite yellow. Four days before death she was seized with vomiting, pain, and enlargement of the hernia; her condition appeared to improve, but she died suddenly.

New Invention.—DR. JOHNSTON exhibited a centrifugal machine for the very rapid separation of sediments in various fluids. It is of great assistance in examining urine, as the sediment can be obtained within a minute; it also may be used in examination of the blood.

A Case of Zoster-Ophthalmicus.—DR. BULLER read the history of this case, which appeared in the August number of this JOURNAL.

Discussion.—DR. PROUDFOOT had under his care a girl who had herpes on both wrists and a small spot on the cornea. He asked Dr. Buller what his experience was of the use of eserine and pilocarpine, as his own had not been favourable, and he was inclined to the older use of atropine and hot fomentations.

DR. MCCONNELL asked what would be the result to the cornea if the disease was left alone; would it tend to get well without treatment?

DR. SHEPHERD said that he had never seen a case of bilateral herpes. It is a self limited disease, and would get well of itself.

DR. BULLER, in reply, said that as atropine has anodyne properties, he usually treats such cases with it; but here he had used it so long he thought a change would be beneficial. He would never use eserine while he had pilocarpine. It is quite possible if the disease was left alone it would recover in time, and as it is only superficial, would result in a perfect cure. It is one of the most obstinate forms of inflammation of the eye.

An extraordinary meeting of the Society was held on Wednesday, September 7th, Dr. Buller, the President, being in the chair. The meeting had been called on receipt of the following letter:—

HEALTH DEPARTMENT,
CITY HALL, MONTREAL, Aug. 30th, 1892.

To F. BULLER, ESQ., M.D.,
President Medico-Chirurgical Society.

SIR,—I am instructed to inform you that, in view of the danger that Asiatic cholera may reach our shores, the Board of Health are endeavouring to put in operation every possible measure for the protection of the city; and that they would therefore be happy to receive any suggestion your Society may be pleased to offer respecting the prevention of cholera.

I have the honour to be,
Your obedient servant,
J. IGNATIUS FLYNN, SECRETARY.

After considerable discussion, it was moved by Dr. Jas. Bell, seconded by Dr. Shepherd, and unanimously adopted, that the above letter be replied to by the following resolution :

"That this Society, recognizing the great danger to the lives of the citizens as well as to the commerce of the country from the introduction of Asiatic cholera which is now threatened, deplores the fact that the city of Montreal, with its adjoining suburbs, is at present wholly unprepared to cope with cholera or other epidemic disease. This Society regrets that an important recommendation which it made to the City Council through a deputation of its members some months ago—viz., that a competent sanitary engineer be appointed—has, up to the present time, not led to any satisfactory results. Further, that this Society is of the unanimous opinion that steps should be immediately taken to put the city in a condition of cleanliness; to provide suitable disinfecting apparatus for the clothing and effects of suspected immigrants, and baths for such suspects themselves; that the Civic Infectious Hospital should be fully equipped and made available for the reception of cholera suspects at a moment's notice.

"That this Society is further of the unanimous opinion that the Health Department of this city should be capable of preventing the spread of cholera from such cases as may be imported into it, and that to this end no expense should be spared to secure a sufficient number of competent officers and all necessary appliances."

The President then appointed the following members of the Society as a deputation to wait upon the Board of Health and lay this resolution before them : The President, Dr. Jas. Bell, Dr. Perrigo, Dr. Guerin, and the Secretary.

It was thought well for the Society to take a step further and lay before the Federal Government their opinions on the question of Immigration and Quarantine. These views were embodied in the following resolution moved by Dr. Bell, seconded by Dr. Shepherd, and carried unanimously :—

"Whereas, in the opinion of this Society, nothing but the most watchful care on the part of the Federal and Provincial authorities can prevent the introduction of Asiatic cholera in this country, and

"Whereas it has been abundantly proved that the quarantine arrangements at Grosse Isle, and presumably at the other Canadian seaports, are absolutely inefficient,

"Be it therefore resolved that the Federal Government be urged—(*a*) To issue such instructions as shall prevent any further embarkation of emigrants for this country during the balance of the present season. (*b*) That as a large number of emigrants have already embarked for

Canadian ports, and who cannot be returned to the ports from which they have sailed, that all such emigrants be detained in quarantine, on their arrival, for a period of not less than twenty-one days. (*c*) That for present as well as for future safety such quarantine stations be, with the least possible delay, put into a condition of efficiency, in accordance with the most modern scientific principles."

The President appointed the following deputation to proceed to Ottawa and lay this resolution before the members of the Federal Government: The President, Dr. Craik, Dr. Lachapelle, Dr. Roddick, Dr. F. W. Campbell, and the Secretary.

The Society further fully endorsed and approved of the action of the Provincial Board of Health in prohibiting the landing of all immigrants after a certain date.

Selections.

Insanity and Criminal Responsibility.—The term "medical expert" as used in the criminal courts is one which frequently tends to make the profession the laughing-stock of the public at large, and it has become a by-word that such testimony is a reproach rather than a credit to the profession. A noted lawyer, upon being asked what in his consideration was the best life preserver, answered promptly, insanity. This is true enough, thanks to the medical expert. It must, indeed, be anything but comforting to those members of the profession who keenly feel its responsibilities to the public that so large a number of murderers and other criminals are not only saved from a just punishment through the endeavours of these experts, but again thrust upon the public to be a constant menace to society. This important subject may be viewed from two points,—first, the validity of the so-called expert testimony; second, the value of insanity or mental peculiarities or weaknesses as an excuse for crime. The first point is one that can only be briefly touched upon in this article. The term "medical expert" is one that has absolutely no value and frequently no meaning. Anyone having the title Doctor of Medicine can claim to be a medical expert. In America the student who attains his degree with little or no preliminary education and after a few months' study, and the student who has passed brilliant preliminary examinations and obtained his degree after a four or five years' course in our great medical schools, both arrive at the same end as far as the public are concerned—they are "doctors," and here the matter ends. The title of "medical expert" may be claimed by one as well as the other—and more likely by the former than the latter. That criminal lawyers make active use of this vast unevenness is only too patent, and the mass of absurdly contradictory and untruthful evidence frequently elucidated when such expertism is called into requisition redounds to the great discredit of our honourable profession, and renders the value of evidence from reliable sources almost as questionable as that obtained from unworthy witnesses. Naturally there are unprincipled men in the medical profession, as in every walk of life, but a vast amount of the worthless evidence given in court by medical experts is the result of the deliberate suppression of the truth or of absolute ignorance. To be an expert on insanity means a life-long experience with such cases, and only those who have made nervous and mental diseases a specialty should be permitted to give evidence as experts.

But to turn to the other point at issue—Is insanity or mental peculiarity and weakness a valid excuse for crime? The Latin poet has justly said that *ira furor brevis est*, and criminal lawyers making use of the theory are content to prove that their clients were insane only at the moment of the commission of the crime, and therefore irresponsible. A glance at the results of coroner's inquests in the case of suicide reveals the great predominence of the verdict, "*felo de se* while labouring under temporary insanity." Indeed, some authorities go so far as to say that no one in the possession of their mental faculties would voluntarily take their own lives. Would not a similar contention be applicable in case of murder and other revolting crimes? Again, in cases where the criminal is evidently of a very low mental calibre, in whom bestiality and brutality are inherent traits, is it justice to credit him with the same amount of moral responsibility as an educated or sane man?

All this is theorizing; but theorizing that is made active use of in our criminal courts, and theorizing which, to the disgrace of the so-called medical expert, turns out yearly from behind the bars a large number of dangerous criminals. In the enforcement of the extreme penalties of the law, two points are held in view—first, the example to others; second, the public welfare. In what manner the public welfare is to be conserved by the acquittal of the criminal insane or criminally irresponsible is not apparent. If such an acquittal meant a confinement for life or until the individual's mental condition had become such that he was no longer a menace to society, it would be another thing. It is only too common that when such criminals are subjected to confinement it is but a short time before they are liberated, but their mental condition is unimproved. The case of Deeming, which recently engaged the attention of the civilized world, is that of a man who has made murder a pastime—murder in its most brutal and barbarous form. Not only murder, but theft, forgery and a whole list of other crimes. A man in middle life, and until his arrest able to earn for himself a good livelihood; successfully act a series of different parts; travel extensively; court, marry, and become a father. For years he succeeded in adroitly covering up his atrocious deeds. He was finally brought to justice, his lawyer spoke of him as "the abnormal offspring of a mother's womb," medical experts came to his rescue and endeavoured to prove by various facts that he was morally irresponsible for the crimes he committed. The question is, should such a condition justify acquittal? In aiding the acquittal of such monsters our medical experts are confronted by a most grave responsibility, which we fear is in many cases unrecognized. To declare a man mentally deficient, morally debased, or intellectually wanting, and to prove that his mental organization is of low calibre, his moral instinct dulled through disease or inheritance, is well enough, but to assert the absence of moral responsibility and the justifiability of acquittal is a step too far. —*Medical and Surgical Reporter.*

Pain in the Sole of the Foot on Walking. (By J. J. Putnam, M.D.)—At a meeting of the Society for Medical Observation on April 6, 1891 (*Boston Med. and Surg. Journal*, June 18, 1891), I mentioned a mode of treatment which I had found effectual in several cases of a painful affection of the sole of the foot. The communication was unpremeditated, and I had not posted myself particularly upon the literature of the subject, but I presumed that the affection was the same as that which has been admirably described by Dr. E. H. Bradford under the name of Morton's affection of the foot. I write now mainly to enclose a spontaneous tribute to the value of the treatment which I suggested. I may say that I do not claim any originality for the treatment, but that having been myself a sufferer for many years, and having therefore tried various modifications of the plan suggested, my experience may be worth recording. The affection as I have seen it consists in a tenderness of the sole, usually most marked opposite the space between the distal ends of the third and fourth metacarpal bones. In walking there are often referred sensations along the corresponding toes. If walking is persisted in, soreness often ensues, which finally may give rise to dull pain throughout the whole leg. It is worse in wet and cold weather.

The treatment consists in protecting the tender point, either by putting a thin but stiff leather inside-sole into a broad shoe, with a hole cut of appropriate size and shape, or else by making a depression at this point in the sole of the shoe. This can be done by having the last made with a projection on it at the proper place. I have found it very important to make the hole in the inner sole of oblong shape, the long axis (which I think should be an inch or an inch and a half in length) running parallel with the metatarsal bone. In my own case the opening begins within about a quarter of an inch of the outer edge of the sole, and then slants forward and inward. The space between the heads of the third and fourth metacarpal bones lies opposite the opening. I find the proper place to make the opening by putting aniline ink over the tenderest spot on the sole of the foot, and then letting the patient put his naked foot into the shoe containing the inner-sole, which has been moistened with water so as to absorb the stain. Of course there is some smearing, but the most anterior point is obtained in this way. After a time the leather of the boot-sole is pressed up into the hole in the inner sole, and then it may be necessary to renew the boot or shave off the elevation. In my own case, I have had my boots made for many years on a last which has a prominence on the sole corresponding to the hole in the inner-sole which I had formerly worn. Except when wearing a shoe made on this last, I can rarely walk a mile without great discomfort; and it must be admitted that in wet weather, which invariably makes the trouble worse, walking is still painful. The letter to which I referred is as follows, from Dr. Frank Holyoke, of Holyoke, Mass.:

"In the *Boston Medical and Surgical Journal* of June 18, 1891, page 607, I was delighted to find your reference to 'cases of pain (on walking) in the sole of the foot, radiating out to certain toes,' for I was at the time much embarrassed in my attempt to relieve the above complaint in two ladies, both of whom had been sufferers for many years; one having had two joints of the fourth toe amputated by some physician who thought in so doing to afford relief. Since the operation (one year ago), however, she has suffered even more. I had your treatment carried out immediately in both cases. The shoes fit nicely about the ankle and instep, but are broad enough for all five toes to lie flat, without lateral pressure. They afforded no relief until the oval was cut out of the inner sole, following your directions. No. 1 put on her shoes ten days ago. On the fourth day, being so pleased with the instantaneous relief, she walked up Mount Tom and back, a distance of five miles, and says, 'I did not know that I had any feet. I felt as though I had wings.' Hers are buttoned shoes. No. 2 (the one where the toe was so stupidly amputated) had a pair of shoes made to order which lace down to the toes, by which means she can regulate the pressure. She has worn them for six days now, and reports equally satisfactory relief. From your few lines I have made enough to keep me in shoes for a year, and I wish to extend to you my most hearty thanks! If you care for a sober report on these two cases, I would be happy to send it."—*Boston Medical and Surgical Journal*, Sept. 1, 1892.

Abscess or Aneurism.—The diagnosis between an aneurism and a deep-seated abscess in the same region has always been a subject of great interest to the practical surgeon, and much as we may pride ourselves upon the modern advance of our art, yet cases still occur in which this old question arises again, or causes great differences of opinion. In the case I am about to relate, so nicely were the signs balanced for aneurism and a great abscess, one for abscess, or against aneurism, that more than one-half the staff of the hospital stood boldly for the diagnosis, which finally proved erroneous—by that of aneurism—for it was an abscess. In the case of a popliteal aneurism, an abscess may very closely simulate its signs, when the purulent collection is deep, bound down by the deep fascia ; under these circumstances so much pressure may be made by the confined matter as to retard the circulation in the artery at least to some extent and thereby stimulate one of the most reliable signs of aneurism. For I take it that the most certain diagnostic signs of aneurism are, first, the effect produced on the circulation beyond the limits and the *distensible* pulsation of the tumour ; while those of abscess, on the other hand, are (first) deep fluctuation, and (second) superficial œdema. In the extremities, either upper or lower, these will usually guide aright ; but in the thorax and abdomen they no longer equally apply. The late Mr. Dease's case has a striking illustration. It was a case of ilio-femoral aneurism in which suppuration had taken place. On viewing the tumour Mr. Dease gave his opinion that it was an abscess, and although his colleagues held an opposite view, he plunged a bistoury into it ; purulent matter flowed out, and Dease looked up with a triumphant expression, but in a moment this was followed by a fearful rush of arterial blood, which quickly terminated the patient's life. I will now relate the particulars of the case which has led me to make these remarks :

Richard Latimer, 18 years of age, a very hale young man, was admitted on January 19th, 1891, into the Adelaide Hospital, Dublin, under Dr. Beatty's care. Since the previous April—that is, eight months before his admission—the patient has been suffering from *pain* in the left side, extending down both arm and leg of that side, but most severe in the side of his chest. This pain got worse when he lay down in bed ; so much so that he used to arch his back forwards to obtain some relief. He noticed a swelling in the upper part of his left chest wall for the first time on Sunday, the 1st of December, 1890. He was going to bed when this swelling was noticed. Next morning he went to the neighbouring dispensary, when Dr. Falkner saw him, and gave him, he says, a plaster to put on the tumour. He was a printer by trade. He now abandoned his employment, that being ordered, and since has had much less pain. When questioned as to any injury having been inflicted on his chest, he remembered that in March, 1890, just a month before the pain began, a very heavy iron bar had fallen against the front of his chest. Dr. Falkner discovered pulsation in the tumour and advised him to go to the hospital. Upon examination, a pulsating tumour about the size of half an orange was found projecting from the chest wall, at the upper part of the cardiac region. The pulsation is systolic and the second sound is accentuated over the tumour, but except this there is no murmur. No râles are heard through the lungs, but there is very feeble breathing all through the left lung and over the posterior part of it. There is dullness on percussion. The side is not at all retracted. The pulse is the same on both sides, and seems of equal volume. The sphygmoscopic tracings of each had the same characters, there was a little marked dicrotic curve.

Feb. 15.—The tumour has greatly increased in size during the past month. Its measurements are now as follows: vertical, 4¼ inches ; transverse, 3¾ inches. There is a *strong pulsation* over it, and to the fingers placed on either side of the tumour this pulsation has a very expansile or distensile feeling. The next important point regarding this tumour is that it is *very tender* to touch, the patient wincing or even crying out when it is pressed or handled, and further *fluctuation* can be distinctly felt in it. The left side of the chest continues dull on percussion, except just along the spine, where the note is clear ; the chest expands very sluggishly on the left side ; breath sounds under left clavicle are feeble and almost inaudible laterally and posteriorly ; temperature normal.

Feb. 16.—A consultation was held and the diagnosis as between abscess and aneurism discussed. In favour of the latter, or aneurism, were: first, the strong pulsation; second, its distensile character; third, the clearness of the cardiac sounds; fourth, the accentuation of the second sound. For abscess were: first, the age and strumous appearance of the patient; second, the position of the tumour; third, the great tenderness; fourth, local œdema. In view of these signs, it was determined to puncture the tumour with a hypodermic needle and thus demonstrate its contents. This I accordingly did then and there, and slowly drew into the glass cylinder—PUS. At once a free opening was decided upon and the patient was carried down to the operation theatre, there placed fully under the influence of ether, and with the aid of my colleagues I proceeded to lay open this pulsating, purulent collection. Although I gave my advice strongly for this mode of treatment, yet I confess I never felt more nervous at any operation. Although no doubt could now be entertained that we had to do with an *abscess*, yet it looked so like an aneurism that I felt very queer, and when having made a free incision a dark-greenish matter came freely out, my assistant drew back, muttering "*larnociatea fetrise.*" But no, it was dark sanguine pus. I washed out the cavity very thoroughly with a boric acid solution and then introduced my forefinger to ascertain if possible the extent of the cavity. I found a cavity about the size of an orange, but with an opening at its left posterior side, which may have communicated either with the pericardium or left pleura. I made no further investigation on this point; but having washed the cavity again, I drew the edges of the sac up to the skin, and secured complete drainage by stitching the opening in the sac to the skin, at the lower end of the wound. It could not be drawn together by deep or superficial sutures.

He improved very markedly after the operation and gained in weight. His temperature varied very much, sometimes as high as 101°, more frequently normal. The wound continued to discharge a weak pus, but not in any great quantity. The left lung, which had been dull on percussion, became resonant, and respiratory murmur was again audible through it. He went to the Convalescent Home when the summer came, and for a little time seemed to be gaining health. A cheesy, strumous discharge continued to come from the wound. Small strumous suppurations took place in several places, and the urine was found to be very albuminous. He died during the summer.

Mr. Going conducted the post-mortem examination and reports as follows: On laying open the chest the operation incision was found to lead to the cavity of the left pleura; there was no opening into the pericardium. The pleural cavity was almost obliterated by dense adhesions between the visceral and parietal layers. The sinus led into a space on the anterior surface of the left lung, surrounded on all sides by firm adhesions. This space contained a quantity of curdy, purulent matter. The back of the left lung was also bound down by adhesions, but they were comparatively easily broken down. Under the parietal pleura was found, here and there, masses about the size of a hazel-nut, each of a cheesy, strumous matter. Over the whole of the right lung and more especially in front were very distinct adhesions; so much so that the lung tissue had to be cut away to open the chest. On opening the pericardium a small quantity of sero-sanguineous fluid escaped; the pericardium was covered with a thick honeycomb-looking substance which formed a tough membrane lining to it. The heart, when its cavities were opened, was found free of any valvular disease; the muscular tissue seemed atrophied. Extensive amyloid degeneration was taking place in both kidneys, liver and spleen.

In order that the interesting lesson in diagnosis taught by this case may remain clearly in all our minds, I would conclude the record of the case by reminding my hearers that the true nature of the case appeared when full weight was given to the age, temperament and constitution of the patient. Looking at the young man and considering his constitutional tendency, it became evidently much more likely that he should suffer from abscess than from aneurism —*Mr. J. K. Barton in Annals of Surgery*, Aug., 1892.

How to Draw Microscopic Objects.—There has always been a certain amount of difficulty attending the use of the camera lucida or Beale's neutral tint reflector for the above purpose. The twisting of the head into an uncomfortable position, the great fatigue to the eyes, and the by no means easy task of viewing both image and pencil at the same time, add to the troubles of making a faithful likeness of the object upon paper. To those especially who do not possess a camera lucida or a Beale's instrument, and to microscopists generally, I recommend the following arrangement of ordinary apparatus. The microscope body is placed in a horizontal position, and the mirror removed from its sub-stage attachment. The microscope slide having been placed on the stage, the illuminant (lamplight for choice) is "condensed" on the slide by means of a "bull's eye" in the same way as for photography. Care must be taken to "centre" the light. The mirror is then attached to the front of the eye-piece of the microscope by a piece of thin wood or a sprig, and has its surface at an angle of about 45° with the plane of the anterior lens of the eye-piece. The image is thus projected on to the paper beneath. No distortion will occur if the outer ring of light is perfectly circular. A dark cloth such as photographers use is thrown over the draughtman's head and also the body of the microscope, and all light excluded save that through the microscope lenses. Any section can thus be easily, rapidly, and comfortably drawn and accurate representations of objects magnified up to 500 or 600 diameters can be obtained. —*A. Hopewell Smith in Journal Br. Dental Association.*

—Hime (*Brit. Med. Jour.*, July 16, 1892) has succeeded in transforming smallpox into cowpox. He obtained from a patient suffering from smallpox a supply of lymph, with which he inoculated a calf about ten weeks old. An eruption was produced which had all the appearance of vaccinia, and the lymph from which produced typical vaccination in a doctor who submitted to the experiment, and also in calves which were vaccinated in the usual way. The apparently irreconcilable difference between the results obtained by the observer and those of the Lyons Commission lies in the fact that the calf was used by him instead of the cow.

Another Case of Syphilitic Reinfection. In the *Gazeta Lekarska*, No. 24, 1892, p. 532, Dr. Romuald A. Gorski, of Lipovetz, narrates the following very interesting case. In 1880, the writer being a student of the Kïer University at the time, a pupil of the same school was admitted to Professor Mering's clinic on account of syphilitic roseola over the chest and abdomen, accompanied by enlargement of the cervical and inguinal glands. The patient stated that he had had coition with a prostitute six weeks previously, and that on the next day he had noticed an erosion on the foreskin, which had rapidly transformed into a hard ulcer. The latter had healed under iodoform, while about five weeks after the coition the rash had come out. The gentleman was treated with 18 inunctions of gray mercurial salve (two grammes at a sitting), and in four weeks was discharged apparently cured, thc only traces left being slight induration on the prepuce, and some enlargement of the lymphatic glands. In the course of time even those remnants disappeared tracelessly. Eleven years later (in July, '91) —during which period he had remained perfectly well and sound without undergoing any treatment whatever—he sought Dr. Gorski's advice for several ulcers in the retro-glandular groove, which had developed in two days after a coition, and one of which proved to be nothing else than a characteristic hard chancre, the others being soft ones. About the fifth week (after the sexual intercourse) there supervened abundant syphilitic roseola over the chest, abdomen and forearms, angina, and universal enlargement of lymphatic glands. Under the influence of twenty mercurial frictions, in four weeks the manifestations subsided. Notwithstanding a consecutive use of iodide of potassium, a month later he returned with recidival roseola over the body. Protoiodide of mercury having been prescribed internally, the rash vanished in a fortnight. In a few months, however, it recurred, to disappear once more after another course of the pills. The author emphasises that 1) his case furnishes an additional fully reliable evidence in favour of the possibility of syphilitic reinfection, which possibility is still denied by many practitioners; and (2) that in his patient the second attack was much more severe than the first. In other words, the patient's susceptibility towards the syphilitic virus was not in the least mitigated by his having once had syphilis. [As far as we are aware, this is the seventh instance of syphilitic reinfection published by Russian and Polish observers during the last four years. (*Cft. St. Louis Med. and Surg. Journal*, Dec. 1891, p. 367; and June 1892, p. 373.) A very curious case of the kind has been lately communicated by Dr. W. Milligan (*vide* the *Journal of Laryngology, Rhinology and Otology*, May 1892, p. 205), the first hard chancre being situated upon the patient's right forefinger and the second in the right nostril.—*Reporter.*]—*St. Louis Med. and Surg. Journal*, Aug. 1892.

Aneurism of the Descending Aorta Treated by Bacelli's Method.—Many methods have been proposed for the treatment of aneurisms of the aorta. We call to mind the galvano-puncture, which had the inconvenience of requiring several seances to produce coagulation. Injection of liquids for this purpose cannot be used on account of their danger. Moore proposed to introduce a fine steel wire, 50 to 100 metres long, by means of a trocar, but this method has been abandoned. Bacelli (of Rome) used a watch spring, which he introduced through the walls of the aneurism. This method has given a certain number of successful results, and, therefore, was made use of by Br. Bourget, of Lauranne, in a man suffering from aneurism of the descending aorta. On deep palpation between the spine of the scapula and the third dorsal vertebra a tumour could be felt the size of a pigeon's egg, strongly pulsating. The sphygmographic tracing taken over this tumour was identical with one taken over the aorta. Later, the tumour became more prominent and gave rise to such severe pain that the patient demanded some intervention for his relief. The operator chose a watch spring about 2 mm. broad and 37 cm. long, the spiral being 5 cm. in diameter. The inner end was sharpened so that the puncture could be made with it without using a trocar. The spring was plunged into boiling diluted hydrochloric acid to disinfect it and also to render the surface rough so that the clot would be more easily formed about it. A small valvular opening was made in the skin over the upper part of the tumour, then an assistant held the spring unrolled while the sharpened end was thrust into the sac. This was accomplished without difficulty, the spring rolling up again and becoming enclosed in the aneurism. There was no rise of temperature nor any symptom referable to the operation. The tumour diminished in volume, all pains disappearing. One month after the operation an exploratory puncture was made at the upper part of the tumour and another at the lower, without obtaining any blood, the needle on being moved giving the impression of being in an elastic mass. The pulsations are much slighter, and during 3½ months the patient gained 6 lbs.—(*Revue de Therapeutique Medico-Chirurgicale*, July 1, 1892.)

On the Results of Treatment of Simple Fracture of the Shaft of the Femur.—A committee of the American Surgical Association, agreeable to a vote of that Association, have made a report on "What should be considered as a satisfactory result [other than perfect union] in the treatment of a simple fracture of the shaft of the femur?" (*Medical News*, Sept. 26, 1891, p. 345.) Thirty-four members of the Association replied to a circular that was addressed to them, and have come to the following conclusions;

A satisfactory result has been obtained in the treatment of fracture of the shaft of the femur when—(1) Firm bony union exists. (2) The long axis of the lower fragment is either directly continuous with that of the upper fragment or the axes are on nearly parallel lines, thus preventing angular deformity. (3) The anterior surface of the lower fragment maintains nearly its normal relation to the plane of the upper fragment, thus preventing undue deviation of the foot from its normal position. (4) The length of the limb is either exactly equal to that of its fellow, or the degree of shortening falls within the limits found to exist in 90 per cent. of healthy limbs—namely, from one-eighth of an inch to one inch. (5) Lameness, if present, is not due to more than one inch of shortening. (6) The conditions attending the treatment prevent other results than those obtained.

Fracture of the Upper Third of the Femur, exclusive of the Neck.—In a paper of considerable interest, Oscar H. Allis (*Medical News*, Nov. 21, 1891) considers the above subject, and draws the following conclusions:—

After fracture of the shaft, the fragments are bound together by a hinge.

The hinge will be short if the vulnerating force was only sufficient to break the bone.

If the hinge is short, overlapping can only occur to a very limited degree. In all such cases the "shortening" will be due to angular displacement.

If the vulnerating force is greater than necessary to merely fracture the bone, the unexpended force will tear the hinge freely.

When the hinge is loose, overlapping, with or without angular deformity, is possible.

The shorter the hinge the greater will be the control of the upper fragment through the agency of the lower.

Traction on the lower fragment under all circumstances is incapable of restoring the long axis of the broken bone.

If the hinge is short, traction will draw down the upper fragment, but cannot efface the anterior angular tendency.

If the hinge is long, traction will exert but little influence upon the upper fragment.

Traction in the oblique direction has no advantage over horizontal extension.

The so-called "weakness" after fracture of the femur, is not due to deficient bone-repair.

"Weakness" is greatest when due to angular deformity with rotation of fragments.

Angular deformity, with rotation of fragments, compels both hip and knee to assume abnormal relations to the trunk.

Shortening, due to overlapping, without angular deformity or rotation of fragments, is no barrier to heavy, manual labour.

Treatment directed to the lower fragment is the probable agency in causing rotation in the lower fragment.

No surface treatment can insure a useful limb.

Osteotomy has corrected many a faulty union after months of waste time.

The conversion of a sealed (simple) fracture into an exposed (compound) one offers the only possible means for accurate diagnosis, and the only possible method of rational treatment.

Patients and surgeons who stop short of this procedure must compromise with best results.

—Hunt (*Brooklyn Med. Journal*, Aug. 1892) recommends bichromate of potash as an expectorant in catarrhal conditions of the mucous membrane of the respiratory tract. He recommends giving it in 1-20 gr. doses every fifteen or thirty minutes until the severe symptoms have passed off and then diminish in frequency to one hour intervals. It is taken and borne readily by the youngest infant, unless given within a few minutes of feeding with milk, with which it seems to be incompatible, so that when the administration of the medicine is at very short intervals, milk-feeding must be for the time suspended.

—Belfield (*Med. Record*, July 16, 1892) says that trichloride of iodine possesses great power in arresting the two bacterial processes met by the surgeon—tuberculosis and suppuration. It is a combination of iodine and chlorine ($I\,Cl_3$) made by passing chlorine gas over iodine. Any trace of animal matter decomposes it at once, therefore distilled water must be used in making up solutions. It is a stable compound, and the crystals and solutions may be kept for months. The author has been using the trichloride for six months, and gives a summary of the cases. He has employed it in the following forms: "For hypodermic use one-tenth to one-half per cent. solution in distilled water alone, or water four parts, glycerine one part. For instillation of deep urethra and irrigation of bladder, and for injection of serous cavities, the same solutions. For suppurating wounds, irrigation with one to five per cent. solution in water, either alone or with glycerine. For putrid surfaces (cancerous), venereal sores, etc., five to twenty per cent. solution in equal parts of water, glycerine and alcohol." Solutions stronger than five per cent. usually cause decided smarting in ordinary wounds, while the crystals are caustic to denuded surfaces. Sterilized gauze dipped in a solution of from one to ten per cent. retains the compound for an indefinite time. The disadvantages of this substance are its caustic preperties in strong solutions and its deleterious action on instruments and clothing. Iodine intoxication may possibly be produced, but the author has never seen it.

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ASIATIC CHOLERA.

The present epidemic of cholera is considered to be particularly severe, resembling in this and other respects the epidemic of 1832, which proved very fatal in Quebec, Montreal, and other Canadian cities and towns. The great development of preventive medicine during the past two or three decades has done much to lessen the mortality of cholera as well as other infectious diseases. Great credit is due to the profession in England for the advanced stand of sanitation in that country. In no other country have they been able so thoroughly to prevent the spread of this disease. During the past ten years, while cholera has claimed thousands of victims in Russia, Germany, Italy, Spain and France, our mother country has remained free, although time and again the disease has been imported from infected districts in the continent. This great success was obtained without any of that vexatious interference with the commerce of the country which has characterized the actions of health boards on this side of the Atlantic as well as on the European continent. It shows how far in advance Great Britain is of all other countries in measures of public health. In Canada and the United States, where many hundred emigrants land every week, it is of vital importance that efficient means should be at the command of the quarantine officials to deal with the disease. The chief means for this purpose are an abundant supply of pure water together with the most modern apparatus for disinfecting clothing, bedding, etc. At Grosse Isle we have neither. It is now several months since cholera made its appearance in Europe, and, in spite of the timely warning, the Government at Ottawa have practically done nothing to save the country from the dreaded scourge. Halifax and St. John are, by all accounts, as badly prepared for dealing with the disease as is Grosse Isle.

On more than one occasion the Government's attention has been called to the inefficient means for stamping out the disease, but all to no purpose. The Medico-Chirurgical Society of Montreal, fully recognizing the terrible consequences that may result from the apathy of the Federal authorities, have appointed a committee to urge upon them the necessity of at once placing all the quarantine stations in the Dominion in a position to deal satisfactorily with any cases that may arrive on our shores. No matter how efficient a quarantine station may be conducted, it is no certain barrier against cholera. It is only the first line of defence. It can only be successful when all passengers are refused admission who come from infected districts. The Central Board of Health of this Province, being convinced of the imminent danger threatening the whole country, and having no confidence in the Federal authorities, took matters into their own hands, and, by virtue of the power granted them by the Government of the Province of Quebec, have declared all Provincial ports closed to emigrants and all passengers from infected districts. This drastic measure will probably save Canada from an invasion of cholera during the present season. In view of the great danger the action is justifiable. Had we competent Federal and municipal authorities to look after the general and local health it would be unnecessary; but lacking these, our commerce must suffer. We will be fortunate in escaping with only a commercial loss.

THE TREATMENT OF ASIATIC CHOLERA.

During the prevalence of Asiatic cholera it is of great importance that even the mildest diarrhœa should be carefully treated. We cannot tell in any case whether it may not be soon followed by all the pronounced symptoms of the severe disease or not. Asiatic cholera is usually preceded by a diarrhœa lasting in some cases a few hours, and it may be some days. In cholera morbus we seldom have a premonitory diarrhœa, this disease setting in suddenly with great severity. For the premonitory diarrhœa, a carefully restricted diet and rest in bed should at once be enforced. A combination of opium with a mineral acid has always been, and is still, looked upon as the most efficient medicinal means,—either dilute sulphuric or hydrochloric acid with tincture of opium or solution of a morphine salt. If the lower portion of the intestines is the seat of the catarrhal state, then injections of tannic acid,—half an ounce of the latter dissolved in about a litre of water (previously boiled) at a temperature of 95° to 100°F. It is claimed by Cantani that tannic acid has a direct germicide action.

When we have to do with the fully developed disease, our treatment is mainly symptomatic, for up to the present there is no evidence that we have any reliable measure to cut short its course. There is no end to the number of remedies that have been recommended as having a directly favourable action on the course of the disease. Recently salol has been recommended by Lowenthal on experimental evidence as of value in directly inhibiting or preventing the growth of the cholera spirillium. A physician in the Phillippine Islands reports that in fifty-three cases of cholera treated by salol only three proved fatal. He recommends, first, doses of thirty grains, to be followed by hourly doses of seven grains. Carbonic acid gas introduced per rectum has also been recently tried, and with success it is said. The old treatment with calomel is worthy of mention in this connection. As calomel, to some extent, undergoes transformation into sublimate in the intestines, it is plausibly inferred that whatever benefit accrues is from the antiseptic effects of the latter. A gaseous disinfectant would probably be more efficient than one in any other form. The resisting power of the cholera spirillium is lower than that of any of the other infectious diseases, hence it is not altogether a hopeless task to look forward to the time when by some disinfectant we may be able to destroy the spirillium in the intestines, before it has generated those toxines which lead to the profound and fatal changes in the central nervous system.

In the *Medical News* for Sept. 10th, Osler has an article on the diagnosis and treatment of Asiatic cholera, and from this we quote what he says on the symptomatic treatment of the disease:

1. Relieving the collapse by hot stimulants, as tea, coffee, brandy, and the external application of heat in various ways. The hot bath should be tried.

2. Checking the vomiting. Cracked ice and champagne, creasote, hydrocyanic acid, menthol, and other means may be tried.

3. Checking the diarrhœa. There can be no question that the collapse is directly due to the diarrhœa, and yet it is probably an effort of Nature to get rid of the poison. Indeed, an evacuant treatment has been urged by Johnson, who advises the use of castor-oil; but the general opinion runs strongly in favour of the use of remedies to check the profuse discharges. Various combinations of opium and ether are employed, with or without astringents. Morphine, hypodermatically, is of the greatest value for this purpose, and is to be preferred to opium by the mouth if the vomiting is obstinate. It has the advantage also of quickly relieving the pains and allaying the terrible restlessness. Lactic acid has been strongly recommended by French physicians.

Two special measures may be given a thorough trial, namely, *hypodermatoclysis* and *enteroclysis*. The former Cantani urges upon the following grounds:

"1. The death of cholera patients supervenes either by asphyxia in the algid period or in consequence of a tumultuous reaction in the typhoid stage, because the organism, through diarrhœa and vomiting, has lost a very large quantity of its aqueous constituents, and has retained or cannot longer eliminate the excrementitious materials—the products of combustion and decay—on account of suppression of the functions of the kidneys.

"2. Recovery occurs when absorption is resumed, in the intestinal canal, of the fluids which furnish to the blood and to the tissues the water which is indispensable to them."

The formula which he advises is as follows:

℞	Sodium chloride, - -	80 grammes.
	Sodium carbonate, -	6 "
	Boiling water, - -	2 liters.

With a fountain-syringe and the canula of an aspirator, from one to two liters of the fluid is allowed to flow gently beneath the skin of the flanks. The tumour formed by the fluid is slowly rubbed away. He advises the warm bath in conjunction with the infusion. The operation may be repeated in two or three hours.

Enteroclysis is even more warmly recommended by Cantani, a mixture of laudanum and tannic acid being employed. The following is the procedure: "If a slight attack of a seemingly simple diarrhœa does not yield at once to rest in bed and the administration of a dose or two of warm infusion or chamomile, to which chlorodyne or laudanum has been added in proper quantity, then recourse should be had, without loss of time, to the warm enteroclysis of tannic acid. This enteroclysis is essentially an injection into the colon, per rectum, of a considerable quantity of warm water holding in solution a eertain percentage of tannin. The rectal syringe, by means of which the injection is made, is furnished with an elastic tube three meters in length, with a nozzle at the free extremity and a cock at the proximal end. With such an instrument, not only the whole length of the colon can be filled with the desired fluid, but also not infrequently a quantity can be made to pass beyond the ileo-cæcal valve into the small intestine.

"The tannic solution recommended by Cantani is constituted for an adult as follows:

℞ Boiled water or infusion of chamomile, warm, -	2 liters.
Tannin, - - - - - - -	5 to 10 grammes.
Laudanum, - - - - -	30 to 50 drops.
Powdered gum arabic, -	50 grammes.

"The temperature of the mixture and the quantity to be injected should vary according to the age of the patient and other circumstances, in the judgment of the physician. The most convenient time for administration of an enteroclysis is immediately following an evacuation." (Shakespeare.)

MATTEISM.

This is a form of quackery which has assumed large proportions in England and the continent. Count Mattei professed to cure cancer "without the knife" by means of lotions and bottled electricity of various colours. Mr. W. T. Stead, in the *Review of Reviews*, and Lady Paget in another periodical, made strong representations in favour of the method, and in response to their representations a committee of investigation was formed by the British Medical Association in the early part of last year. This committee consisted of the late Sir Morell Mackenzie, Mr. Lawson Tait, and Dr. G. W. Potter. Five cases of cancer were treated by the Matteists, under the supervision of the committee, for one year, at the end of which time all had progressed exactly as if no treatment had been used. Dr. Potter made a full report of the proceedings, which is published in the *British Medical Journal*, No. 1650. He says: "What are the medical aspects of the Mattei treatment? There are no medical aspects of any kind. Matteism, in the deliberate judgment of the committee, consists exclusively of vulgar, unadulterated, unredeemed quackery." The electricities, on being analysed, gave no other reaction than that of distilled water, and the therapeutic test coincided with the analysis. The Matteists were allowed to take complete charge of the treatment, the consent of the patients having been obtained after fully explaining the matter to them, and advising them to seek surgical interference. Finally, seeing that the cases were rapidly becoming worse, the quacks turned tail and, figuratively speaking, ran as fast and as far as their legs would carry them. Thus another "sure cure" bubble is pricked and collapses, as far as the scientific world is concerned.

THE LEAGUE AGAINST CANCER.

A committee has been formed in Paris to organise, under this name, a society, the object of which is to collect information on the subject of cancer and to stimulate research for the advancement of our knowledge of this disease, about which so little is known. The officers are as follows: Hon. President, M. Verneuil; President, M. Duplay; Vice-Presidents, M. Trasbot, M. Straus, M. Metchnikoff; General Secretary, M. Paul Reclus; Secretary for surgical department, M. Ricard; Secretary for medical department, M. Brault; Secretary for experimental and pathological department, M. Cazin; Secretary of Committee, M. Rochard; Treasurer, M. Masson. An address has been prepared setting forth the aims of the society and the means it is proposed to make use of in order to attain them. Inquiries, communications and subscriptions are to be addressed to M. Masson, 120 Boulevard St. Germain, Paris. Meetings will be held periodically, and the proceedings will be published. As the funds allow, prizes will be offered to encourage workers, and grants of money to carry out particular researches.

CANADIAN MEDICAL ASSOCIATION.

The twenty-fifth annual meeting of the Canadian Medical Association will be held in Ottawa on Wednesday, Thursday and Friday, 21st, 22nd and 23rd September, under the Presidency of Dr. John L. Bray, of Chatham, Ont. Arrangements have been made with the G. T. and C. P. Railways whereby members may obtain return tickets for one fare and one third. Members and delegates must procure certificates from the station agent at place of departure.

Judging from the number of members and delegates who have signified their intention of being present, the meeting to be held in Ottawa will in all probability be a very successful one.

Members desirous of contributing papers will kindly communicate with the General Secretary (Dr. H. S. Birkett, 123 Stanley Street, Montreal) at as early a date as possible. Appended is a partial list of papers :—

Address in Medicine :
    "The Treatment of Pulmonary Tuberculosis"—Dr. J. E. Graham, Toronto.
    To be discussed by Dr. Prevost, Ottawa.

Address in Surgery :
    "Observations on the Progress of Surgery in our own Day"—Dr. Donald MacLean, Detroit, Mich.
    To be discussed by Dr. V. H. Moore, Brockville.

Address in Obstetrics :
    To be discussed by Dr. Harrison, Selkirk.

Gastro-Enterostomy—Dr. L. McFarlane, Toronto.

Chronic Bright's Disease—Dr. McPhedran, Toronto.

Intussusception and its Treatment by Operation—Dr. F. J. Shepherd, Montreal.

Treatment of Abortion—Dr. K. N. Fenwick, Kingston.

The Management of Goitre—Dr. Dupuis, Kingston.

Uric Acid in Children—Dr. A. D. Blackader, Montreal.

Diseases of the Naso-Pharynx associated with Ocular Affections—Dr. Buller, Montreal.

Prostatectomy—Dr. Geo. E. Armstrong, Montreal.

Appendicitis—Dr. H. P. Wright, Ottawa.

Biological Analysis of Some Canadian Water Supplies—Dr. Wyatt Johnston.

Unrepaired Laceration of the Cervix the most Common Cause of Epithelioma of the Cervix Uteri—Dr. Lapthorn Smith, Montreal.

Case Illustrative of the Influence of Diseases of the Female Generative Organs upon the Visual Apparatus—Dr. Ryerson, Toronto.

(1) Two Early Deaths from Gonorrhœa
(2) Enterectomy for the Cure of Fæcal Fistula } Dr. H. H. Chown, Winnipeg.

An Epidemic of Morbilli Hæmorrhagici—Dr. C. J. Edgar, Sherbrooke.

Hemorrhage in the New-born—Dr. F. A. L. Lockhart, Montreal.

(1) Administration of Chloroform and the Dangers incident thereto.
(2) (*a*) Phlebitis of the Left Femoral Vein caused by an Embolism coming on three weeks after Hysterectomy. (*b*) Aneurism of the Abdominal Aorta—Dr. J. D. Balfour, London.

....—Dr. A. E. Praeger, Nanaimo.

(1) Notes on Eye Lesions consequent on Nasal Affections.
(2) Traumatism of the Labyrinth—Dr. Geo. Baptie, Ottawa.

Papers have also been promised by Sir Jas. Grant (Ottawa), Dr. Mullin (Hamilton), Dr. George McDonald (Calgarry), and Dr. Johnson-Alloway (Montreal).

A special general meeting of the Association of Medical Officers of the Militia of Canada will be held during the session of the C.M.A.

—The following is taken from *The Clinical Reporter* for August 1892. On its title page it informs us that it is "a journal of homœopathic medicine and surgery." We give the article as it stands without any comment:—

"THE ADJUVANT HUMBUG.—In homœopathic practice, 'adjuvants,' like charity, 'cover a multitude of sins,' though to the observant eye the covering is indeed gauzy. In a late issue of one of our homœopathic exchanges we find several writers recommending as 'adjuvants' to the indicated remedy the use of means entirely unhomœopathic. If this thing goes on much farther, we shall soon see reports of malarial intermittents cured by the 30th of natrum mur. with 20 grains of quinine as an 'adjuvant.' We are not going to deny the propriety of using rest, dietetics, exercise, massage, heat, cold, etc., etc., as adjuvants in many cases, but we insist that the application, by inunction, spray, or otherwise of crude drugs in large doses cannot properly be called an *adjuvant* to the internal supposed-to-be-homœopathic remedy. Let us be honest and cease fooling ourselves and thinking that we are fooling others by the use of the term *adjuvant* in such cases. Let us be thoroughly homœopathic if we can, but, in any event, let us be honest, and if, through the imperfection of our knowledge of homœopathic therapeutics, or through any hiatus in the materia medica itself, we are unable to exactly fit the remedy to the pathological and symptomatic conditions and therefore resort to other means, let us say so openly and not make ourselves and homœopathy ridiculous by speaking of allopathic methods as 'adjuvants' to homœopathy."

—We are in receipt of the prospectus of the London Post-Graduate Course, which was founded in January, 1890, in order to increase the opportunities for clinical instruction in London for qualified members of the profession, and also with a view to extend the usefulness for teaching purposes of those hospitals to which there is no medical school attached. During the winter term (October, November and December, 1892), instruction will be given by members of the medical staffs of the following hospitals: The Hospital for Consumption and Diseases of the Chest, Brompton; the Hospital for Sick Children, Great Ormond street, Bloomsbury; the National Hospital for the Paralysed and the Epileptic (Albany Memorial), Queen Square, Bloomsbury; the Royal London Ophthalmic Hospital, Moorfields; the Hospital for Diseases of the Skin, Blackfriars; Bethlem Royal Hospital for Lunatics; the London Throat Hospital, Great Portland street; and at the Bacteriological Department, King's College, and the Parkes Museum. Also a course of lectures and demonstrations on Morbid Anatomy, and a course of lectures on Midwifery and Diseases of Women, will be given at 101 Great Russell street, Bloomsbury; and a course of clinical lectures on Medicine and Surgery will be given at the Central London Sick Asylum, Cleveland street, W. The following are among those who will give lectures during the course—Dr. Gowers, Mr. Jonathan Hutchinson, Mr. Bryant, Mr. Holmes, Dr. Braxton Hicks, Dr. Percy Kidd, Dr. C. Y. Biss, and Mr. Victor Horsley.

Obituary.

THE HON. LEVI RUGGLES CHURCH.

Levi Ruggles Church was born in Aylmer, Que., in 1836. He was the son of Dr. Peter Church, and the grandson of Jonathan Mills Church, a U.E. Loyalist, who, having been taken prisoner in 1777, made his escape and came to Canada. The late Mr. Church intended to follow his father's profession, and after passing through Victoria University, Cobourg, he graduated in medicine at Albany, and also at McGill in 1857, taking both the primary, final and thesis prizes. He then studied law, and was called to the bar of Lower Canada in 1859. He was named a Q.C. in 1874, and made Attorney-General in the same year. In 1887 he was called to a seat in the Court of Queen's Bench, which he was compelled to resign about a year ago on account of ill health. Though practising law he was elected a governor of the College of Physicians and Surgeons of Quebec. He died at his home in Montreal at an early hour on Tuesday, Aug. 30, 1892. He held a high position at the bar, and as a public man had won an enviable and honourable reputation for ability and uprightness. On the bench he was a careful, painstaking and clear-minded judge.

—W. H. Henderson, M.D., Professor of Clinical Medicine at Queen's University, died at Kingston, Aug. 13, 1892, aged 35.

—Dr. J. A. Laramee, professor in the Medical Faculty of Laval University, died Sept. 12, 1892.

—William Dalla Husband, F.R.C.S. Eng—a member for fifty years of the British Medical Association, a former President, President of Council, and Treasurer—died on July 18th, after more than three years of painful illness, and leaves behind him a gap in the ranks of the friends of the Association which can only be filled with difficulty. As a surgeon, Mr. Husband took high rank in and around the city of York, and for many years he was looked up to as the leading medical man of the neighbourhood.

Personal.

—Jas. Stewart, M.D., Professor of Clinical Medicine, McGill University, has returned from the Continent.

—Drs. T. G. Roddick and T. Johnson-Alloway have returned to town, having been away attending the meeting of the British Medical Association at Nottingham, England.

—R. A. Bowie, M.D. (McGill, '91), has been admitted a licentiate of the Royal College of Physicians and a member of the Royal College of Surgeons of London.

—A young Italian girl was amusing herself with a small trumpet three centimetres long, when the instrument was drawn into the trachea; during three days each inspiration produced a sound which could be heard at a distance of 15 metres. Death in 23 days; at the autopsy the trumpet was found in the right bronchus.

—Sulphur is alleged by the homœopathists to effect the cure of a cutaneous affection, on the principle that like cures like. Perhaps they argue that, as sulphur is a cause of the eruption of Mount Vesuvius, it is similar in its nature to that morbific agent which occasions a peculiar breaking-out of the skin.—(*Punch.*)

EIGHTEEN DAYS OF A TEMPERATURE OF 46°C. (114.8°F.)—Dr. Obelar has reported a temperature of from 45° to 46°C. in one of his patients. This temperature was carefully verified, and lasted for eighteen days before death.—*Union Médicale du Nord-est.*

A VICTIM TO PROFESSIONAL DUTY.—The *Wratch* gives the following details of the assassination of Dr. Moltchanoff at Kwalinsk, due to the troubles caused by the appearance of cholera in that city. Our *confrère* was about to leave for St. Petersburg to take charge of the cholera hospital. When the riots first began, in spite of the advice of his friends who implored him to leave, Moltchanoff, thinking it his duty to remain, stuck to his post. He performed his duties until the 30th of last month (July), when the first band of rioters arrived, loudly demanding his head. They had nicknamed him Dr. Cholera and accused him of having undertaken by a bond, in consideration of a sum of money, to poison the water supply of the city. With difficulty the doctor saved himself on horseback and took refuge in the house of a friend, where he was betrayed by the servants. The mob surrounded the house and threatened to burn it, when, to save his host, Moltchanoff gave himself up to the rioters. Three priests who interfered to save him were half killed by the crowd, who then subjected the doctor to a long martyrdom. They threw him on the pavement and stamped on him and kicked him, while the women attacked him with stones and hammers until the body was not recognizable. Even then they kept guard so that it should not be removed. The government has granted a pension to the widow and children.

THE

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Original Communications.

THE PRESIDENT'S ADDRESS.

AT THE ANNUAL MEETING OF THE CANADIAN MEDICAL ASSOCIATION, HELD AT OTTAWA, SEPTEMBER 21, 1892.

BY JOHN L. BRAY, M.D., F.R.C.S.K.

Gentlemen,—Allow me in the first place to offer you my most heartfelt thanks for the great honour you have conferred on me in electing me President of the Canadian Medical Association; and while I appreciate your kindness and feel proud of the distinction, the high honour only makes me more conscious of my inability to fill the position with credit to the profession and satisfaction to myself. Following as I do my immediate predecessor, Dr. Roddick, only makes this more obvious. But I trust you will extend to me a helping hand, and at the same time shut your eyes to my deficiencies.

Now I am not going to deliver a scientific address on medicine or surgery, as that duty has been delegated to those much better able to perform the task than I am, but will take instead a review of Medical Education and the advances made in that direction since the birth of this Association twenty-five years ago; secondly, say something about Medical Reciprocity between the Provinces and the barriers that now exist to prevent this, and how they may be removed; and thirdly, the influence that this Association ought to exert, not only over the medical profession, but also over the public from one end of this great Dominion to the other. And what time could be more fitting or what place more appropriate for such a retrospect? We meet to-day to celebrate our silver anniversary, in Ottawa, the capital of our country, on this the twenty-fifth anniversary of its birth. What memories are recalled by a few—and, oh! how few they are—that were present when this Association was formed a quarter of a century ago. What changes have taken place since then! The magnificent building we now occupy was not then erected. The City of Ottawa was only a city in name; and of the noble men in our profession who were instrumental in forming this society how many have gone to their long home, and are forever at rest from the cares and anxieties of this world! The reaper Death has year by year since that time been cutting down first one and then another of our members, without regard to age, ability or position. Since our last meeting we have to mourn the death of Dr. James Ross, who so ably presided over our deliberations two years ago, in Toronto, whose kindly smile and friendly greeting we miss to-day, from whose large experience we have all more or less profited, and whose wise counsels we would all do well to follow. But we have with us to-day Sir James Grant, Dr. Hingston, Dr. Fenwick, and perhaps a few more who were present at the birth of this Association.

When we see how our country has grown and developed since that time, it is sad to think that this Society has not kept pace with the Dominion, and I trust the remarks made by Dr. Roddick in Montreal last year on this subject will bear fruit, and that in the next twenty-five years this Association will rival in numbers as it does now in ability its great neighbour, the American Medical Association, and I hope before we close our labours some steps will be taken by the formation of a commtttee or in some other way to promote this object.

It will be in the recollection of some present to-day the condition of things as they existed prior to the formation of this Society in 1867, and the passage of the Upper Canada Medical Act about the same time. You will remember that there were three licensing bodies in old Canada at that time, independent of the medical schools and universities. The latter were degree-conferring institutions, but they virtually possessed the licensing power, inasmuch as the holder of a degree from any of these bodies was entitled to practice medicine on proving identity, paying a small fee, and having a license signed by the Governor-General. All he had to do was to send his degree with an affidavit to the Provincial Secretary, when his Excellency, taking for granted that he was fully qualified, having secured a degree from some college or university in Canada or Great Britain, would attach his signature to a Provincial license, which enabled him to practise in that or, in fact, any other province, so that in reality we at that time had in Upper and Lower Canada, to say nothing of the other provinces now constituting the Dominion, seven or eight licensing bodies responsible to no central authority, each vieing with the other who could turn out the greatest number of doctors independent of quality. The licensing boards in Canada consisted of the Upper Canada, the Homœopathic, and the Eclectic Medical Boards, all constituted by royal charter, and electing or appointing their members in different ways. The Upper Canada board was appointed by the Governor-General for life, or good behaviour. How the others were appointed I cannot say, but probably in the same way, on the advice of one or two of the more prominent members of these schools. You can imagine it was not so very difficult to become a full-fledged doctor in those days. The schools and universities fixed their own curricula both for matriculation and professional examinations, and the licensing boards, some of them at least, I believe, required no standard of matriculation at all, and almost none of a professional character, consequently the education required to become a doctor at that time was not of a very high order. So low had the requirements sunk that not only the profession but the schools as well began to think it was time to make some change, and demand a higher standard. I am speaking now more particularly of Ontario. The first step taken to remedy the then existing state of things was by the Act of 1865, known as the Parker Act, whereby a council was formed who had the power to fix the standard of matriculation as well as that of the medical curriculum. But while they had the right to make a standard, they were powerless to enforce it, no authority being given them to appoint examiners or conduct the examinations, which was left to the colleges as heretofore ; and although the Provincial Board was done away with by this Act, the Homœopathic and Eclectic Boards were not interfered with, which, instead of remedying, rather increased the evil, as the number of licenses from these boards for the next year or two amply testified; and while this Act was an improvement in some respects (being a starting point) it was found to be still very defective. It was felt that the plan of allowing each school to examine its own students, even although the council fixed a standard, did not prevent a great many unqualified men from getting into the profession; for if the curriculum was difficult, the examinations were in many cases made easy, and in the event of a student being rejected by his college (which was a rare occurrence) there was nothing to prevent him from going before one or other of the remaining medical boards, and I fail to recollect a single instance where a student taking this course was not granted a license to practise medicine, surgery and midwifery.

This state of affairs induced the council to consider what steps they should take to remedy this evil, and the conclusion they arrived at was a wise one. They thought if it were possible to unite all branches of the profession and bring them all under one law, they could then control and direct medical education. In order to do this it was necessary to give and take, and a compromise was effected with the Homœopathics and Eclectics, as well as the different medical schools and universities, whereby the whole profession was united and brought together, and became subject to one central authority, viz., the Medical Council of Ontario, made up of representatives elected and appointed from the profession, the medical schools and universities, and also from the Homœopathic and Eclectic bodies. This Act came in force in the year 1868, and gave the council power not only to make the standard of all the examinations, but to appoint examiners to conduct them; and I am happy to say that from that time till the present the standard of medical education has been rising year by year, not only in Ontario, but over the whole Dominion, until to-day in Ontario we have a curriculum standard equal to that existing in any country in the world, and a Medical Act to enforce it, which is the envy of the United States, and which England has tried in vain for years to adopt. I am sorry, indeed, to find that a hostile feeling has arisen against the council through some clauses added to the Act in 1891, which feeling I would be glad to see removed. But while I am aware that a few faults are to be found, I am also aware that a great many virtues exist in the Act as it now stands, and it behooves the whole profession to see that no action is taken to impair its usefulness, detract from the dignity or lessen the influence of the Medical Council, which is the safeguard of medical education in Ontario, and which exerts an influence over the whole Dominion, for every province would suffer should the Council be done away with and a return to free trade in medicine follow, as it would most assuredly do, and if the Ontario Medical Council was abolished we would go back to the same position as we occupied prior to 1868. I cannot believe there is one who has the welfare of the medical profession at heart in this country who would wish to see us return to this condition, and for this reason I would ask those who are opposed to some clauses in our Act to pause and consider well before they do anything to embarrass the Council or vitiate the Act, and by so doing play into the hands of the charlatans both in and out of the profession. As it is we stand alone, looked upon by the general public as a close corporation and fitting prey for malpractice suits for large damages, who do nothing but increase the fees and legislate for our own pockets; and these views are encouraged by a certain class of men who have not the ability to obtain our license, or having obtained it, branch off in some disreputable way in order to make more money, and victimize the very public whom they profess to champion as against the regular practitioner. Fortunately for the profession and public we have a clause in the Act to enable the Council to purge the profession of such unworthy members, and to punish others who trade on the credulity of the public by fraudulent practices without being registered. Why it should be so I cannot tell, unless it is that people like to be humbugged. But it is a fact, nevertheless, that the sympathies of the majority of the laity are against the regular profession and in favour of quackery. Therefore I reiterate the statement that we must be careful how we interfere with the present law, by amending some minor clauses which may be objectionable, that we do not get the whole Act wiped out; and I would suggest here, as I have already done in another place, that the members of the profession in Ontario, who are aggrieved at some of the workings of the Act, meet the Medical Council, discuss the whole question, frame such amendments as may be in the interests of the profession and public, and then go to the Legislature as a united profession, asking for such alterations in the present Act as they have agreed upon, and I am sure the Legislature will grant them. I hope the Association will pardon me for this digression, but I speak feelingly, having the interests of the profession at heart and knowing something of the differences existing between some members of the profession and the Medical Council of Ontario.

Prior to 1867 the matriculation examinations in all our colleges was more a matter of form than anything else, and could be passed at any time before going up for the degree. At the present time it is quite different. Now it is equal to a second class teacher's certificate, with Latin, Physics and Chemistry compulsory, or junior matriculation in arts in any university, with the science course; and the day is not far distant when it will become still higher and eventually reach a degree in arts; and can anyone say that this should not be so? A physician, above all men, should be thoroughly educated, for education is a great refiner, and in what calling or profession is this quality more essential than in ours? What scenes we witness, what confidences we receive? In and out of the family circle at all hours and under all circumstances, and always battling with pain, disease and death. And here it is that the refined physician shows the result of his early training, by soothing pain, curing or relieving disease, and sympathizing with the bereaved; and, mark my words, it is only the man who thoroughly knows his profession that in the long run reaches the top of the ladder and who deserves and receives the gratitude of his patients and esteem and respect of his confrères.

I am indebted to Dr. Pepper of Philadelphia, and desire to return him my most sincere thanks, for a copy of his address, containing a vast amount of information on the subject of Medical Education, delivered by him a few years ago. In speaking of the system of medical education in the United States (and his remarks would have applied to Canada a few years ago, although not quite to the same extent), he says if we would learn the truth and know the estimation in which our medical education has of late been held by other countries, it needs only to examine the changes which have taken place in their system of medical teaching, proportionate to the vast advances in medical knowledge, and then turn to the picture of our own position as drawn by those most competent to depict it. He proceeds to say in every country but ours, without, so far as I know, a single exception where a system of medical education can be said to exist, certain general principles will be found embodied in that system. These are, first, a matriculation examination; second, a sufficient length of time devoted to medical studies; third, a careful personal training of each student in all practical and clinical branches; fourth, careful grading of the course; and fifth, impartial examinations by disinterested individuals. On the whole, these are about the requirements necessary in the Dominion at the present time for a student before receiving the right to practice. Dr. Pepper goes on to say that there are some in this country who would cry out at once that so prolonged and elaborate course of study as I have mentioned is not necessary in America to produce good practical doctors, but that it can only tend to develop a class of over-educated, supercilious, impractical medical men, too good and fine for the average work of a physician. No frame of mind is more enjoyable than the self-complacent contentment of the optimist who holds the candle of his own excellencies so close to his eye that it dazzles him, and makes him blind to the broad sunlight of truth and progress flooding the world. Such objections as the above might be expected if the elevated system of teaching which I have sketched were adopted only in one or two very old and wealthy countries, for it might then seem to be due to a highly artificial state of society. But when we see that not only the older and more highly civilized and more densely populated countries, such as England, France and Germany, but in those whose state of civilization and the condition of whose people we should be slow to regard as favourable compared to our own, as Russia and Spain, in those such as Brazil and Australia, whose forms of government and social system are younger even than our own, and finally, even in countries which, like Mexico and the Republics of South America, we are supposed to regard as only semi-civilized, and where the instability of government and the frequent convulsions of social order would seem to render any fixed and comprehensive educational policy impossible, when we see that in each and all of these, a thorough plan of medical education is held essential for the welfare of the community, for the development of medical science, and for the interests of the medical profession itself. It is surely time to consider carefully if we are not sadly at fault in this; and if, while elsewhere the requirements of medical education have been made to keep pace with the growth of medical knowledge, with us they have not been controlled by other and far less proper influences. Now if we consider the present state of medical science and note the vast advances that have been made during the past twenty-five or thirty years in all of its departments; if we reflect upon the enormous extent of accurate information, of minute technical knowledge and of special practical training which is now required to fit a man to practice medicine scientifically, and to render to those sufferers who seek his help the full measure of the benefits which the healing art is now capable of bestowing, shall we be surprised at the careful and prolonged course of study that we find is imposed in all countries but our own upon the applicant for the degree of medicine?

Surely no one can fail to appreciate the enormous importance of having thoroughly trained and skilful physicians.

When overtaken by serious accident or illness, all other means of relief fail, and the most wealthy, the most powerful, the most illustrious must, like the poor and unknown, cast their dependence upon the skill which, under God's guidance, the physician shall display in battling with disease and death. No other study presents difficulties and complexities so great as those which beset the study of medicine. In no other occupation in life are such varied culture of the mind and training of the senses demanded. Yet I learn on inquiry that the average time of apprenticeship to the following trades or callings is—for barbers, three years; for carpenters, printers, turners, plumbers, pattern

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makers, at least four years; for machinists, five years; and for pilots, seven years. Can it be that the apprentice must practise five years before he is regarded as a skilled workman, fitted to mend or make machines of iron or brass, and that in this land of intelligence, progress and common sense one who has studied medicine less than one-third of that time may have his license to meddle with and make or mar that most wonderful machine—*man's body*—infinitely complex, gifted with boundless capacities, and freighted with the awful responsibility of an immortal soul? Can it be that seven long years of pupilage must pass ere the young pilot may be trusted in charge of a vessel to guide it through the crooked, narrow channel, where only the hidden dangers of sunken rocks or treacherous shoals beset him, while in less than one-fourth of that time we profess that one may qualify himself to pilot the most precious craft—a human life—through the long, dark, intricate windings of disease, where at every turn death lies concealed, so close at hand and so difficult to avoid that nothing but the most intimate knowledge of his profession and consummate skill can insure safety. A strange seeming contrast, and yet the following careful examination of the state of medical education as it exists in all the medical schools on this continent with a few honourable exceptions fully supports the paradox. He then goes on to give the curricula, course of study required, and methods of examination of most of the medical schools in the United States, and compares them with the colleges of other countries. But I need not follow him further in this direction, and have only introduced his remarks to show the state of medical education as it exists where there is no central governing power having supervision over the different teaching and degree-conferring bodies, as was the case in Canada up to the year 1868. But I am pleased to say that to-day Canada as a whole has one of the highest standards of medical matriculation as well as medical teaching to be found in any country but Germany, and what we want particularly at the present time is to assimilate the systems existing in the different provinces, thereby making one uniform standard for the whole Dominion. And this brings me to the second part of my subject, viz., the question of Medical Reciprocity between the Provinces.

In reading over the Medical Acts of the different provinces, I find that Ontario is the only one that has a central examining board appointed by the Council, before whom every student desirous of practicing in that province, no matter from what country he may come or from what university he may have a degree, has to pass. I further find in the Ontario Medical Act this clause: "When and as soon as it appears that there has been established a central examining board similar to that constituted by this Act, or an institution duly recognized by the Legislature of any of the provinces forming the Dominion of Canada, other than Ontario, as the sole examining body for the purpose of granting certificates of qualification, and wherein the curriculum is equal to that established in Ontario, the holder of any such certificate shall, upon due proof, be entitled to registration by the Council of Ontario if the same privilege is accorded by such examining board or institution to those holding certificates in Ontario."

I find in the Manitoba Medical Act that the University of Manitoba is the sole examining body for the Province, and in that respect comes nearer to the requirements of Ontario than any other, and I see no reason why, as long as this remains so, reciprocity should not exist between them. Now it appears to me there are just two ways whereby reciprocity between the provinces can be brought about, and these are, first, the repeal of that portion of the British North America Act which gives each province sole control over all educational matters, by taking from them this right and vesting it in the Federal Government, and the appointment of a Dominion Medical Board; or, secondly, the establishing of Medical Councils for each province, who shall appoint a Central Examining Board similar to that of Ontario, and when this is done let representatives from each Provincial Council meet, say in Ottawa, and fix one uniform standard of medical studies to be adopted by all the provinces. Now, as to the first, I think it is entirely out of the question, and can be put aside as utterly impracticable, as I feel sure the Local Legislatures would never consent to have the control of the educational system taken out of their hands. As to the second proposition, I see no good reason why it should not be adopted. In all the

Provincial Medical Acts, so far as I am aware, full power is given the Councils to fix the period of study, make their own curricula, and to conduct their own examinations in the way which to them may seem best. Now, all the colleges and universities in the Dominion, so far as I can learn, require four full years of study from a student before going up for his degree, but those of British Columbia, whose Council is satisfied with three. The teaching in all these institutions is very similar, so that it would not be a difficult task to make them uniform in this respect. Then all that remains to be done is to appoint a Central Medical Examining Board for each province, to examine and recommend for license all graduates, leaving the universities the power of granting degrees only. I shall make no more suggestions on this point, as committees from each province were asked to meet in this city to discuss this matter fully, and I trust their deliberations will result in bringing about the object we all so much desire.

There is one thing that must always be borne in mind, however, and that is, no matter how or by what means reciprocity is brought about, the standard of medical education must always be advancing. This is something we owe both to ourselves and the public, although the latter are slow to appreciate the sacrifices we are constantly making in their behalf. When will they understand that it is more to their interests than ours that medical men should be thoroughly trained and well educated? These same people would never think of retaining an uneducated and incompetent lawyer to conduct a case when only their money or property was at stake, nor would they employ a poor mechanic to build their houses, or hire a worthless labourer who was incapable of doing the work intrusted to him. Yet they do not hesitate to put themselves under the care of and intrust their health and lives to those travelling charlatans who are without the slightest pretence to a thorough medical training (or as Dr. Campbell, one of the homœopathic members and vice-president of the Ontario Medical Council, puts it, "those uneducated, incompetent and dishonest persons who prey on the misfortunes of the sick and distressed: parasites on the profession and plunderers of the people"), and pay enormous fees and those in advance: such fees that if any reputable physician should dare to charge the one-half his bill would be disputed. He would be called an extortioner, and his neighbours warned not to employ him. This is no exaggerated picture, therefore it behooves us as members of the Canadian Medical Association, having the welfare of the public at heart, to work together not only to elevate the standing of our profession, but to enlighten the public as to who are worthy of their confidence, and to warn them against the incompetent, uneducated and unlicensed men, as well as the registered quack who sells his license to some foreign institution and robs the deluded people who employ him of both money and health.

In speaking of reciprocity it has always appeared to me the height of absurdity that in this young country, made up of the different provinces and territories, confederated together under one general government, that in each of these provinces an educated medical man (already registered in one) should be required to pass an examination before being allowed to practice his profession on entering another province, or else be humiliated by being dragged before a magistrate and fined, or sent to prison. What a spectacle it would be and how injurious it would prove were the chief medical officer of one of our trans-continental or inter-provincial railways like the C.P.R. or G.T.R. be made to pay a fine for setting a fracture or amputating a limb for some poor unfortunate injured in an accident on one of these roads, outside the province in which the medical officer was registered; or in case of a suit for damages being brought against one of these companies in any province beyond the limits for which the chief medical officer's registration extended, what would be thought by the public if the court refused to hear his evidence because he was not a registered practitioner in that particular part of the country? Yet as the law now stands in some of the provinces he, in the first instance, could be fined, and in the second his evidence would be of no legal value. Under these circumstancs I think it the duty of the Medical Councils of each province to consider this matter fully, and not only consider it, but adopt some means to remedy the evil, injustice and absurdity of the present state of things,

Let us, then, as members of this National Medical Association, throw aside all minor differences of opinion as to provincial rights and use our influence individually and collectively to attain this object, and like the two great political parties unite, as they did twenty-five years ago, for the noble purpose of bringing together under one government the scattered provinces under the British crown in North America into one great Dominion, in whose capital we now meet, so let us assimilate, unite and bring together the different systems of medical education as now existing in these provinces, and form one great universal system with a standard so high that it will carry with it not only the respect and admiration of the people of this country, but secure the recognition it would deserve from the universities and medical councils of Great Britain and the continent; and just as Canada is destined to take her place among the most progressive and enlightened countries of the earth, so her sons, who are graduates of her universities and registered by her medical councils, shall take their stand among their confreres from the older countries in the world's medical congress and feel proud to be called Canadians.

THE TREATMENT OF TUBERCULOSIS.*

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Notwithstanding the great discoveries that have been made in the etiology and pathology of pulmonary tuberculosis, we have not yet found a specific remedy, nor are we able to cope more successfully with the disease in its advanced stages. Under these circumstances it is of the greatest importance that we should enquire into the best means of preventing the spread of the affection as well as of checking its progress in the individual at the very earliest period. Fortunately, in both of these departments great advancement has been made. I shall therefore devote a great part of this paper to a consideration of the prophylactic and hygienic management of pulmonary tuberculosis.

In looking over the literature of the disease, one is again reminded that advance in any science is often made rather by fits and starts than by a continuous rate of progress. After a discovery there is often a stand-still or a little retrogression, then a second advance much greater than the first.

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* The Address in Medicine at the annual meeting of the Canadian Medical Association, held at Ottawa, September 21, 1892.

It is somewhat surprising to read that the contagiousness of tuberculosis was well known in the time of Galen, and that Valsalva and Morgagni exercised great care in the dissection of tubercular subjects for fear of becoming infected.

During the latter part of the last century a rigid law existed in the north of Italy, whereby the clothing and bedding of a patient who had died of tuberculosis were destroyed by fire. Even in Portugal a similar law existed at that time. In 1782 the King of Naples made an edict compelling all patients suffering from tuberculosis to be sent to hospitals used for that disease alone. In Florence and other Italian cities the public were warned not to visit tubercular patients. In Germany, in 1780, Wickman declared that consumption was contagious.

It is singular that all this should have been forgotten, and that only after the most convincing proof of contagion, the result of bacteriological observation, are we now seriously attempting to prevent the spread of the disease from one individual to another. When in the more recent literature there are so many instances of the great benefit of sanitation, it is surprising that we should still hesitate to adopt vigorous measures. When we know that tuberculosis carries off a seventh part of the human race, that its ravages are certainly greater than those of any known disease, we should put forth every effort to stamp it out so far as that can be done. In Russia, during the present year, where the cholera victims have been numbered by the thousands, the tuberculosis will cut off also its thousands, and continue to do so year after year.

The general prophylaxis I shall take up under two heads: First, the destruction of the bacilli outside of the body; second, placing the individual in such a condition that he can successfully withstand the onset of the disease.

While we still continue to believe in the possibility of the direct transmission of the affection from parent to child, a belief which has been confirmed by the recent investigations of Schmolz and Birsch Herschfeld, yet statistics prove that in the great majority of cases the virus is conveyed either through the air, by food, or by direct inoculation, and that its transmission through the air in the form of dried particles of sputum is by far the most frequent way. The bacilli do not grow outside of animal products. The disease is rarely if ever communicated by inhaling the breath. It is therefore only necessary to properly dispose of the sputa.

Aronson stated that in the orphanage at Nürnberg there are a large number of children hereditarily predisposed to tuberculosis, but that by attention to cleanliness, ventilation, and outdoor exercise, not a single case of that disease has occurred during the last eight years.

In the Johns Hopkins Reports, an instance is given of a child four months old in whom tuberculosis developed after the family had lived in a room in which a tubercular patient died three weeks before.

One of the most remarkable instances of house infection is given by Engelmann, who relates the history of a dwelling which for eight years after its erection remained free of tuberculosis. Then two of the inmates died of that disease after some months illness. From that time onward for the period of twelve years the dwelling was inhabited by a number of different families in succession, and was scarcely at any time free from consumptive patients. Thirteen fatal cases occurred in the twelve years.

Marfour gives the history of an epidemic in an office in Paris. Thirteen of the clerks died in four years. He attributed the succession of cases to the practice of spitting on the floor.

A startling account of an epidemic of tuberculosis was given at the Paris Congress of 1890. Of 35 workmen in a certain factory, 27 suffered from tuberculosis; 4 had the disease previous to admission, and 23 became affected in the factory. The period of incubation was two months.

An illustration of the great benefit of attention to general sanitation is given in the history of the Laiback Prison as related by Dr. Keesbacker. The rooms were damp, badly ventilated, and overcrowded. The building itself was old and a favourable place for the development of tuberculosis. The prisoners were required to work hard and had insufficient food. Previous to

1884 a large number of the prisoners died of consumption. During 1884 the whole prison was cleansed and disinfected, and means for proper ventilation were introduced. The prisoners were compelled to use spittoons, which were plentifully provided and partly filled with a disinfectant solution. At the same time the work was somewhat lessened, and some improvement was made in the character of the food. The percentages of deaths during the following years afford a positive proof of the great benefits arising from the changes made. In 1884, 8.12 per cent.; 1885, 5.12; 1886, 2.98; 1887, 3.58; 1889, 2.18.

It is true that instances have been reported of prisons where improved sanitary conditions were not followed by a lessening of the mortality from tuberculosis. In these, however, some other circumstances may have influenced the result.

A consideration of these examples at once leads us to the question, Should not our sanitary boards take more decided steps in the prevention of this disease? Why should not all cases of tuberculosis be reported in the same way as scarlatina or typhoid fever? Why should not our health authorities inspect those houses in which consumptive patients live, to find out the cause of the disease, and to so instruct the family as to prevent the infection of other members.

An objection has been raised that if such measures were carried out the patient's life would be rendered intolerable, as he would be shunned by his own relatives. In my opinion the very reverse would be the case. There exists at present among the laity a very exaggerated idea of the contagiousness of consumption, as well as a good deal of unnecessary fear. If the public were made aware that with precautions easily taken there is little or no danger, such fears would be allayed.

Spittoons partly filled with a disinfectant solution should be provided in our public buildings, in street and railway carriages, and especially in the state-rooms of ocean steamers. The existence of dried expectoration upon the street does not seem to be a source of danger, as Cornet (6) has shown that the disease is not prevalent among those who work constantly on the streets. Pocket spittoons, such as that invented by Dr. Dettweiler, should be carried by phthisical patients. The inspection of milk and other articles of food should be insisted upon.

The further discussion of these sanitary measures I shall leave to the department of public health, and proceed with the prophylaxis as it comes under the immediate attention of the general practitioner. We shall now consider the prevention of tuberculosis in those who inherit a predisposition to the disease.

As before stated, well authenticated cases go to prove that tuberculosis may be directly transmitted from parent to child. There are many instances of the presence of the disease in the brain, in joints, etc., when no avenue of infection from without can be discovered. The frequent presence of tuberculosis in sucklings, as found by Frœbelins, 416 out of 16,581, and the fact that Birsch Herschfeld was able to inoculate animals, and successfully produce tuberculosis, with a portion of the viscera of a fœtus in which no bacilli were found, are very significant. The statistics of Vigual, however, point in the opposite direction. At the Paris Clinique d'Accouchement, for eight years, postmortems have been made in all cases of death of fœtus or fully developed children. Tuberculosis has never been found, and no successful inoculation has ever been made. The same results were obtained experimentally. The baby guinea-pigs of tubercular mothers were never found to be affected. I quote the following statistics as given by Dr. Osler in his recent work: " Although, in the Berlin abattoirs for some years past, 13 per cent. of the animals slaughtered were tubercular, out of 15,400 calves killed only four were found similarly diseased."

Taking it, however, for granted that in all of those cases of hereditary taint the disease is directly transmitted, a conclusion which is not at all warranted by the facts, we have still nearly half of the cases to be accounted for. Hereditary taint is found in a little more than half of all cases. To the former the disease must have been conveyed from without. The facts, however, prove that in the great majority of cases the tendency to the disease is transmitted and not the affection itself.

Although I am quite of opinion that there is urgent necessity for the adoption of such rules as will result in the destruction of the bacilli outside of the body, or prevent them from being taken into the lungs, yet, from the very nature of the case, we cannot hope in that direction to be more than partially successful. It is therefore necessary to so strengthen and fortify the system that it can successfully withstand the attacks of the bacilli.

It is one of the most important duties of the family physician to thus shield predisposed persons as much as possible.

An individual is not able to choose his own parents, but he can very often so choose his occupation and place of residence as to remain free from the successful attacks of his great enemy. During childhood such persons should live in the open air as much as possible, should sleep in well ventilated rooms, and should eat good wholesome food which can be easily digested. In infancy they should not be nursed by their mothers. The dwellings should be bright, well ventilated, and free from emanations from the soil.

During convalescence after measles, whooping-cough, as well as all debilitating diseases, great care ought to be taken to avoid lung complications, and if these occur, to see that they quite disappear.

A regular system of lung gymnastics might be with benefit recommended. The apparatus made for that purpose in Boston, and which I saw in use in Davos, is the best. It is probable that the pulmonary apices are first affected owing to the lessened expansibility of the chest in that neighbourhood. Lung gymnastics are of no use, and perhaps do harm, when the disease is advanced. In latent cases, and certainly as a prophylactic measure, they have been found of great service.

Many of these directions, particularly as to out-door life, can be best carried out in a mild, equable climate, and persons predisposed to consumption ought, if possible, to make their home in such localities. Perhaps the most important question is the nature of the trade or occupation to be followed. Dr. Herman Weber, at the International Congress in Berlin, gave the history of a family which presents many facts of great interest touching upon this point. Many of you have no doubt already read this account. A teacher of languages and his wife both died of tuberculosis while under Dr. Weber's care. Of the seven children, one had already died of tubercular meningitis. The other six were healthy with the exception of the youngest, who had rickets. Of eleven cousins of these children, nine died of phthisis before the twenty-eighth year. It will thus be seen that the prospect of these children could not well have been more gloomy. They were sent into the country and there brought up with great care under the doctor's instructions. Now, what was the result? The eldest son, up to his twenty-third year, so long as he lived largely in the open air, was healthy and strong. He then became a hard student, working night and day, having his meals in his rooms, and taking very little exercise. In eighteen months afterwards he died of rapid consumption. The second son was a farmer, and remained healthy until his twenty-ninth year. He then became tired of the monotony of country life and went into a mercantile house, where he was engaged for many hours each day in an office. He worked hard at his books in his own room during the evenings. After two years he had repeated hemorrhages, and in two years more he died of tuberculosis. The third son entered the cavalry service and is strong and healthy. The youngest son is now living and healthy, a farmer in Manitoba. The fourth, a girl, became the wife of a country clergyman, and is still quite healthy. The sixth, also a girl, lives with her brother in Manitoba. She is strong and healthy.

Could any statement of facts give stronger evidence of the importance of choosing a profession or trade? In these cases it does not matter which view is taken; whether the disease or simply the tendency is transmitted, the results are the same. The callings which are especially to be avoided are such as compel individuals to remain in close, ill-ventilated rooms, to work in a dusty atmosphere, or to live in a large, densely-populated city. To be chosen are those callings in which a great part of the time is spent in the open air, and which do not require too great mental or physical strain.

It naturally often occurs that those predisposed to tuberculosis are placed in special danger on account of one member of the family having the disease. Under such circumstances it may be feasible to send some of the more delicate ones away from home.

I had once a family under observation in which all the children except two died of consumption. These two left home after the first death, went on a farm in the northern part of Ontario, and still remain healthy.

The greatest care should be taken that proper spittoons be used, and that the sputa should be destroyed. It is said that six million bacilli exist in one expectoration, and according to Koch, eight hundred are necessary for a successful inoculation. During the past two years I had under observation a young girl suffering from tuberculosis. Her mother, contrary to instruction, washed the pocket handkerchief used by the patient for the expectoration. She thus contracted sores upon her hands which never entirely healed, no doubt due to local infection, and at the same time the lungs became diseased.

There is no doubt, too, that the patient can re-inoculate himself by carelessness in the disposal of the sputa, and this selfish consideration will often make him more careful when it is fully explained to him. The urine and fæces are seldom, if ever, the source of infection, but, for general sanitary reasons, ought to be properly disposed of. Bacilli have been found in considerable numbers in the perspiration. These adhere accidentally to the skin, as they are not found when the surface has been washed by a disinfecting solution. The frequent bathing of a consumptive patient is therefore of great benefit, not only to the patient himself, but also to those around him. He should occupy a bedroom by himself, which should be thoroughly aired and periodically disinfected. Kissing patients upon the mouth ought to be avoided. With thorough cleanliness, destruction of the sputa, and attending to the general measures spoken of, there is, in my opinion, little danger of the disease spreading from one to another member of the same family.

That nurses become under ordinary circumstances affected is strikingly shown by Comet's statistics. Of a hundred whose histories could be obtained, sixty-three had died of tuberculosis. Further, Comet's experiments of inoculating animals with the dust of hospital wards in which a large number of consumptive cases were treated, are also suggestive. He found that when spittoons were properly used and the sputa destroyed, he was not able to make a successful inoculation, although he made over seventy trials, and that when no precautions were taken he was very frequently able to make successful inoculations.

This leads up to the question, Should tubercular patients be treated in the wards of a general hospital? Yes, if proper precautions are taken. They are, however, a source of danger to other patients when all sanitary regulations are neglected. Many fatal cases of tuberculosis have no doubt originated in the wards of the hospital.

Before proceeding to speak of the treatment of tuberculosis in the incipient stage, I shall refer to our definition of that disease. Are all cases of phthisis pulmonum cases of pulmonary tuberculosis? Can we have a disease accompanied by cough, fever, night sweats, and breaking down of the lungs, in which the bacilli are not found, and in which the pathological process must be due to some other agent. It is my opinion that such cases do occur, but they are so few compared with the whole number that their existence is not practically of great importance, certainly not so numerous as to lessen our belief that the bacilli are generally the cause of phthisis.

In recent lectures on fibroid phthisis, Sir Andrew Clark has fairly proved the existence of such cases. I was assured by the physicians at Davos and other establishments for the cure of consumption, that they occasionally met with such cases and that the absence of bacilli is an important point in the prognosis.

Dr. Gabrylowicz, a Russian physician of extensive experience, in an article on the cause and therapeutics of consumption, was able to give only nine fatal cases in whom no bacilli were found, either during life or on post-mortem examinations. He also gave five cases of apparently healed phthisis in which no bacilli were found in the sputa.

It is possible that in some of these cases the bacilli exist in very small numbers, as in lupus, and they are thus not easily detected. A case of some interest in this connection occurred in my own practice. An elderly lady consulted me with regard to her lungs. I found positive signs of extensive induration in the lower and back part of one side. On informing the patient of what I had found, she assured me that Dr. Howard of Montreal had discovered a similar condition eight years before. A sad, but somewhat interesting fact is, that three years ago her daughter, aged 20, was attacked by tuberculosis and rapidly sank under it. It is possible that in this case we have an example of very chronic tuberculosis, and while the mother still lives, she has already communicated the disease to her daughter, or is it, on the other hand, a case of non-tubercular phthisis.

It is possible that some of these cases may be really of syphilitic character. Last winter a patient entered under my care in the Toronto General Hospital, in whom a diagnosis of tuberculosis was made, although no bacilli could be found in the sputa. After some weeks she was put under anti-syphilitic treatment, and immediately began to gain weight and steadily improved.

While at Davos this summer the history of a case was related to me of a young man who came there with every evidence of tuberculosis. Bacilli were found in great numbers in the sputa. The upper part of one lung as far down as the fourth rib was involved, and yet in four months the bacilli had disappeared ; the lung seemed healed, and the young man went away apparently cured. This case may, perhaps, be partly explained on the supposition that a catarrhal pneumonia surrounded the tubercular deposit.

Then, again, we must remember that pulmonary tuberculosis is a mixed disease and not the single process which is seen by experimentally inoculating animals. As Comet has recently shown, in his paper read at Leipsic, several different forms of pathogenic bacteria are present in the contents of cavities and in the surrounding tissues. We have therefore to deal with a chronic septic condition in addition to the tubercular process.

Then, again, blood poisoning from the absorption of toxic agents and from imperfect æration must also be taken into account.

When we have discovered pulmonary tuberculosis in its incipient stage, the general regime should be our first consideration. If circumstances render it at all possible the patient should at once be placed under the open-air treatment. There are several methods whereby this may be accomplished, and we shall discuss them in the following order :—

1. High altitude resorts for winter and summer.
2. Special hospitals for the treatment of consumption either on the higher elevations or on lower planes.
3. Southern climates which have a fairly even temperature.
4. The open-air treatment as it can be conducted at home.
5. Sea voyage.

The main features of a mountain resort are (low atmospheric pressure): (1) The rarity and purity of the atmosphere. (2) Freedom from winds. (3) Dryness of the air. (4) The great amount of sunshine. On account of the rarity of the atmosphere greater exertion in breathing is required as well as greater expansion of the lungs. If the patient does not take too much exercise at first, this extra draw upon the lungs seems to have a beneficial effect even in cases of active disease, and is only of disadvantage when there is not sufficient healthy lung remaining to perform the respiratory act without risk of rupturing the air cells and thus producing emphysema. From my observation, I think that patients are not always sufficiently guarded on this point, and take too much exercise at first. The rarity of the air facilitates radiation and permits the transmission of the sun's rays without intercepting them. In the winter snow does not melt so rapidly and the air is consequently drier. At the same time the heat of the sun is so great that patients can comfortably sit or lie for hours in the open air in mid-winter, so long as there is no wind. The radiating thermometer at Davos will show 100° to 110° in the sun when it is 10° below freezing in the shade.

1. The purity of the air on the mountains is well known. Scarcely a single microbe could be found in a cubic metre of air at the summit of Mount Blanc. This is a matter of great importance to consumptive patients. Foreign particles, whether germs or of inorganic character, increase the irritation in the bronchi. I was told by a gentleman at one of the health resorts of Europe, who had a very extensive experience in the examination of sputa, that he has examined the expectoration of a patient taken early in the morning and found no carbon particles, and that after the patient had taken a two hours' walk the doctor found particles of carbon imbedded in the mucus. All such foreign bodies, although they may not pass further than the

bronchi, lessen the resisting power of the cells. Again, the septic processes already spoken of must be set up by germs introduced from without.

2. The stillness of the air which is observed in sheltered mountain resorts is of great advantage, as on account of it patients can remain out of doors at a temperature which they could not endure if there was wind. It is noticed at Davos, as well as other places, that the occasional presence of wind completely changes the surrounding conditions.

3. The dryness of the air seems to exert a favourable influence. This, however, is not essential, for, as Dr. Osler asks, why should such good results be obtained at those resorts on the south coast of England? It is, however, generally admitted that, other things being equal, a dry air is more favourable than that containing moisture. The apparent discrepancy of views on this subject of the effect of dry and moist air has not yet been explained, at least to my satisfaction. The great amount of sunshine in mountain resorts is, without doubt, a very important feature. It has been shown that tuberculous rabbits will live much longer in the sunshine than in dark rooms. In this respect resorts on this continent ought to have a great advantage over those in Europe. Leysin-sur-Argle, in Switzerland, enjoys perhaps the greatest average amount of sunshine of any similar place on the Continent—over five hours each day in the winter time, and seventy-four clear days between December 1st and March 32st, 1887.

The composition and structure of the earth's surface has an influence upon the condition of the patient. It is generally conceded that those situations are the best where the rocks, granite, for instance, come near the surface, and where there is little vegetable mould.

It is safe to say that, as a rule, a consumptive patient in the early stage, when under strict medical supervision, has a better chance at a high altitude than under any other conditions. This is not on account of the bacilli ceasing to grow merely because of the high altitude, but that the surrounding conditions are the best for restoring the general health of the patient, and placing him in a position to overcome the disease. It has certainly been shown that the bacilli not only grow but are conveyed to previously healthy people at Davos, and tuberculosis has been found at much higher altitudes, as in Mexico and in the Himalaya mountains.

Now, the class of patients suitable for such treatment are those (1) in the earlier stages of the disease, when sufficient sound lung remains to perform the respiratory function with ease under the changed circumstances; (2) when the other organs have not been deranged by the toxic agents found in the blood of consumptives; (3) when there is sufficient vitality to withstand the greater strain. It is difficult in many cases to draw the line, and often nothing but a stay for a few weeks will demonstrate their suitability for such treatment. Then, again, the care with which patients are treated when in health resorts is a very important consideration. On this account I am strongly impressed with the value of the sanatorium, where the patient is under the immediate observation of the physician.

The cases which should not be sent are (1) those in the advanced stage, when the amount of healthy lung is insufficient for the respiratory function; (2) when the blood is, to a great extent, poisoned from septic absorption or want of æration; (3) when other organs have become affected, either from the toxic agents in the blood or from further invasion of the bacilli; (4) excessively nervous patients; (5) those having complications, as Bright's disease, diabetes, or cardiac disease.

Now what is the process of cure at high altitudes?

1. Digestion and assimilation are at once stimulated and the general nutrition much improved. It is remarkable how soon the appetite increases and the patient gains in weight after a few weeks residence at Davos. This is no doubt largely due to the great number of hours each day the patient is able to remain out of doors, as well as to increased oxygenation of the blood.

2. The rarity of the atmosphere causes greater expansion of the lungs, which, as a prophylactic measure, is excellent, and is beneficial even when the disease is somewhat advanced.

3. The dryness of the air has an excellent local effect, which has frequently been observed by physicians at such health resorts.

4. Owing to the thinness and clearness of the air, the sun's

rays are easily transmitted without losing heat. The rays, therefore, exert a greater effect on the body.

I will now take into consideration the utility of special hospitals for the treatment of tuberculosis, whether these are situated at high altitudes or near the sea level. Dr. Turban's sanatorium at Davos, and Dr. Dettweiler's at Falkenstein, are examples of each of these. The former is over 5,000 feet and the latter about 1,000 feet above the sea level. They are built and conducted in much the same way. These institutions are so situated that the front is towards the south, and they are protected on the north side by mountains and forests. A deep balcony or verandah runs along the whole front of the building, which is well supplied with curtains to be used in unfavourable weather. The patients are placed under a strict regime. The main features in the treatment are life in the open air, rest, and careful attention to diet. Each patient takes the full amount of food which he can digest and assimilate, and such articles are selected as will supply in full quantity each of the essential constituents. A regular course of douching and massage is also prescribed in suitable cases. The patients are expected to take exercise, at Davos, from half an hour to three hours each day. In the great majority of cases this is confined to walking on the level and afterwards along slightly ascending parts. At Görbersdorf, exercise is a much more important feature, while at Falkenstein very little is permitted. The patients spend the greater part of the day, from eight to ten hours, on the balcony resting, either partly sitting up or in a recumbent posture. The bedroom windows remain open all night throughout the winter. It will thus be seen that, except during meals and the hours of treatment, the patient really lives in the open air. The amount of rest enjoined at these institutions is often very trying, and, I think, might be modified to suit the various habits of the patients.

The sanatorium at Falkenstein was founded in 1877, and in 1886 Dr. Dettweiler published statistics of 1,022 patients. Of these 132 had been sent out as cured, and 110 as apparently cured. Of the former cases, 72 who answered the enquiries were all in good health from three to nine years after they left the hospital.

This plan of treatment is much more easily carried out at high elevations than near the sea level, but the success which has been obtained at Falkenstein demonstrates the utility of such an institution in an ordinary flat country.

Then, again, the sanatorium at Halda, Finland, proves that they can be conducted successfully in cold countries.

The success of the cottage hospital at Saranac Lake, as shown by Dr. Trudeau's reports, ought to encourage us in greater efforts in this direction.

My observations have confirmed me in the belief that in our own country, in a majority of cases, patients would be much more successfully treated in hospitals especially adapted for the purpose than at their own homes. I also think that if favourable situations were selected and careful meteorological observations made, some locality in the Western territories, for instance, possessing the necessary climatic conditions could be found.

I have noticed for years that during the summer months patients do exceedingly well in Muskoka, where they live most of the time out of doors. In fact, I have seen much greater improvement there than in many of the southern health resorts.

A question of great importance arises here. Can such hospitals be so conducted as to prevent the spread of the disease to the attendants, as well as the reinfection of the convalescent? From observation as well as from statistics, I am of opinion that such can be done. With the open air treatment, destruction of the sputa, bathing and periodical disinfection of the rooms and furniture, there is little if any danger of spread of the disease.

For charity patients a special hospital is, in my opinion, a necessity, if we ever expect to be able to check the progress of consumption. The advantages of hospitals are: 1. The patient is always under medical supervision, both with regard to food and exercise. 2. Any medical treatment can be carried out with greater regularity. 3. The patient is thus placed in the most favourable condition for recovery, and is at the same time no longer a source of danger to his relatives. If, however, such hospitals existed, fitted up for the wealthy as well as for the poor, one would naturally expect that a very large number would prefer to remain at home. Consumptive patients are, as a rule, very fond of home, and often fret when removed from it. It has occurred to me that a somewhat modified outdoor treatment might be conducted, especially in farm-houses, which are, as a rule, in this province, large and comfortable. The patient could have a bedroom with a southern aspect, and sleep with the window open, so long as the temperature within was carefully regulated. A deep balcony might be erected on the south side, but not overshadowing the bedroom windows, where he could remain for hours together during the winter, as well as throughout the whole summer. At the same time a system of douching and massage could be adopted and the diet carefully regulated.

Perhaps, while listening to these remarks, those of you who have been educated in the Toronto School of Medicine will be reminded of the advice so emphatically given by Dr. Aikins upon the subject of fresh air. This system of treatment of tuberculosis which is now becoming more and more in vogue, both in Europe and America, is nothing more than the carrying out of methods for so many years advocated by Dr. Aikins.

Dr. Flint, in one of the older editions, speaks of patients sleeping in the woods in the open air in California, and the same plan has been pursued with benefit in Germany. The open-air treatment in warm climates, at or near the sea level, such as that of Florida, Southern California, Algiers, and the south of France, ought to be reserved for those patients with advanced disease. or of poor constitution, who cannot endure the strain of high altitudes or cold air, as well as for those in the incipient stage, who for other reasons cannot live on the mountain. There is a relaxation produced by the heat which is in strong contrast to the bracing effect of cold. In many cases, however, life is very much prolonged by residence in such climates.

Frequently too little care is exercised in sending patients away for their health. I have made it a rule not to send a patient away unless he can afford to procure the same comforts as at home. A tuberculous patient should not be sent alone unless he goes to a sanatorium. It is of advantage to send incipient cases to a country such as Colorado, where they may contrive to live after the disease has been checked.

The diet of patients ought to be carefully regulated so that the amount of fats and carbo-hydrates should be somewhat increased in propertion to the albumens. It is often of benefit to consult diet tables showing the composition of the various kinds of foods, so as to choose that which is most nourishing. Milk and cream are always at hand, and in them the various principles are nearer the proper proportions than in any other.

It is, of course, absolutely necessary that food should be properly cooked, and here physicians experience great difficulty in the treatment of phthisis as of other diseases. It is sad to be compelled to confess that in our own country, both in rural districts and in cities, the preparation and cooking of food among the masses is very much inferior to what it ought to be. Prof. Goldwin Smith has truly said that pork and pie are two great hindrances to popular progress in Canada. I have no doubt that in many instances fatal diseases becóme seated on account of weakness of the constitution, the result of living on improperly cooked food.

No specific has yet been discovered for tuberculosis, and it is doubtful if at any future time a remedy will be found which will more than mitigate the effects of the disease when it is in an advanced stage. The treatment by Koch's tuberculin has now been almost discontinued. Dr. Leo Berthensar, of St. Nicholas Hospital, St. Petersburg, has given, in a recent number of the *Deutsche med. Wochenschrift*, the results of his experience in the management of thirty-five selected favourable cases. The treatment was continued five months. I shall quote some of the conclusions, as they are among the most recent given.

1. The diagnosis of tuberculosis by tuberculin is not always certainly made.

2. The possibility of curing tuberculosis by tuberculin has not yet been established, but there is often an increase in weight and an improvement in the chest symptoms.

3. There is no certainty with regard to the duration of the improvement.

4. It is a very dangerous remedy in cases of well-developed tuberculosis. It may increase the local conditions in the lungs, or produce inflammation and destruction of tissue, which may be dangerous to life.

5. On account of the danger attending the use of tuberculin in advanced cases, it should be limited to those in the incipient stages.

6. Even in the latter its use demands the greatest care, as it may produce local congestions in the internal organs.

7. It ought to be given at first in very small doses, and increased with great care.

8. He would not advocate its use by the general practitioner until its indications and contra-indications were better understood.

9. By choosing the patient and by careful administration, there is but little danger in the use of tuberculin.

My own experience with tuberculin is confined to about half-a-dozen cases which I had under my immediate care, and about a dozen under the care of my colleagues in the hospital. Of my own cases the results were not satisfactory. In two there was a temporary improvement.

Dr. S. Botkin of St. Petersburg has recently reported the result of his observations on the blood of patients who were being treated by tuberculin. He noticed (1) acute leucocytosis; (2) rapidly diminishing number of white corpuscles after the fever has subsided,—changes analogous to those found in pneumonia and some septic conditions.

Tuberculin is no doubt a virulent poison which ought not to be used under the present circumstances. That it possesses curative properties is well shown in some cases of lupus and incipient pulmonary tuberculosis. It is probable that after further investigations, tuberculin may be so modified as to be given with safety in incipient cases.

Dr. Carl Spengler of Davos reports cases treated with a mixture of Koch's and Klebs' modified lymph. Good results were obtained without the production of the reactionary fever. Some favourable reports of cases treated by Hunter's modification have also been published. Whatever may be the future of tuberculin, it is safe to say that it will never have a curative effect on advanced cases of disease. The bacilli being the chief cause of irritation, and existing so deep in the tissues, no remedy can be introduced to destroy them which will not be dangerous to life. In this respect tuberculosis differs from such diseases as tetanus, in which the symptoms are produced by a toxic agent, the result of the local growth of bacteria.

A mere enumeration of the internal remedies is the strongest evidence of the obstinate and fatal character of pulmonary tuberculosis. The following agents have been recommended for use by inhalation: Sulphurous acid, sulphuric acid, carbolic acid, hydrofluoric acid, oxygen, ozone, calomel in finely divided powder, creasote, iodine, etc. The administration of sulphuretted hydrogen by the rectum, Weigert's system of the inhalation of dry heated air, Krull's treatment by heated vapour, have all had their day. Hypodermic injections of cantharidate of potassium, iodide of gold, serum of dog's blood, goat's blood, with Brown-Sequard's fluid of the testicles, cabinets with rarefied air and condensed air, have been tried and found wanting. The internal administration of cod liver oil, creasote, Ginarol's carbolic acid, carbonic acid, iodoform, and hypophosphites; the surgical treatment, disinfection of cavities, local injection of iodine, have all to a large extent failed.

In glancing over the literature of the therapeutics of tuberculosis, one is struck with the fact that, under every new plan of treatment, no matter how unreasonable, cases are reported at first in which good results have been procured, such as increase in weight and amelioration of chest symptoms. This is no doubt largely due to the effect made on the mind of the patient. Some years ago I treated several cases in the hospital by Bergeron's method—rectal injection of sulphuretted hydrogen. All the patients expressed themselves as feeling better.

The treatment by Weigert's method of having the patient respire heated dry air was instituted on the ground that bacilli cannot exist above a certain temperature, and he hoped to destroy them by heating the tissue in which they were imbedded. Koch has shown that bacilli grow best at 37.5°C., are weakened at 38.5°, cease to grow at 42°, and cannot exist above that temperature. It has, however, been found impossible to raise the temperature of the lung tissue in this way to any appreciable extent, and that during exercise or forced breathing the temperature can be varied to a greater degre than by such form of inhalation. More can be accomplished by Krull's method of inhaling steam heated to a certain degree. It is extremely doubtful if the temperature of the lung tissue can be sufficiently raised or maintained long enough to have any effect upon the life of the bacilli.

Cod-liver oil has no doubt been too often prescribed without reference to the conditions of the stomach, and has then in many cases done more harm than good. I cannot, however, agree with those who say that it is of no use except as a food, and that other fatty foods much more pleasant to the taste may be substituted for it. When it can be readily taken and digested, it exerts a beneficial influence in phthisis much greater than can be accounted for on the ground that it is simply a food, and notwithstanding all the measures which have of late years been recommended, it still, in my opinion, occupies a prominent place in the treatment of the disease.

The remedy which at present promises the best results is creasote. This drug was discovered in 1832 by Reichuback, and in 1877 it was recommended by Bouchord and Gunbert for phthisis. Dr. Summerbrodt of Breslau has recently confirmed his former views, and after thirteen years' experience is quite convinced that creasote exercises a curative effect upon pulmonary phthisis. He emphasizes the importance of large doses and a long continued use of the remedy. He prescribes capsules of ⅔m., creasote with balsam of tolu, or cod liver oil. Of these he at first gives three a day and increases the number to twenty. Very often when it does not agree at first, by perseverance the stomach becomes more tolerant. My own experience with creasote has been favourable. It is difficult, however, to maintain its continued use. I have not used guiacol, nor have I tried the recent Shurley Gibbs' method of administering calcium hyposulphite.

My time does not allow me to consider palliative measures. Two circumstances ought to encourage us in the treatment of this obstinate disease. 1. The great number of cases of healed tuberculosis as demonstrated by the post-mortem room. Osler found evidence of such present in 7.5 per cent. of those persons who died of diseases other than phthisis. Bouchard makes the statement that in 75 per cent. of the sections at the Paris morgue some signs of previous disease had been found. In many cases, too, there had been a complete cure, as no cultivation nor successful inoculation could be made from the nodules. It is also a common fact that in some instances where bacilli have been found, they will neither grow nor produce the disease in animals. 2. Many physicians of long experience can point to cases of complete cure. These facts ought to impress us with the importance of making an early diagnosis, so as to place the patient under the most favourable conditions possible, and at the same time ought to stimulate us in the discovery of new and better methods, so as to still further reduce the number of unsuccessful cases.

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

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Angina Ludovici.—This disease is of somewhat rare occurrence, and although alluded to previously by various authors under various names, such as cynanche cellularis, angina externa, gangrenous cellulitis of the neck, etc., etc., it remained for Ludwig of Stuttgart to first give an accurate account of this very fatal affection. (*Medicin. Intelligenz Blatt.*, No. 4, 1836.) Ludwig called it "a new kind of inflammation of the cellular tissue of the neck." Mr. R. W. Parker, in the *Lancet*, October 18th and 25th, 1879, has an interesting account of angina Ludovici, an affection which is not alluded to in most of the text-books on surgery, and not mentioned in such a complete work as Heath's Dictionary of Practical Surgery, or Buck's Reference Handbook of the Medical Sciences.

In Ludwig's original account, for which I am indebted to Mr. Parker, the disease is described as one setting in with high fever, rigors, much depression, and difficulty of swallowing; then "there develops sometimes on both sides of the neck, more generally on one, a hard swelling in the tissue surrounding the submaxillary gland." This cellular induration spreads first towards the chin even to opposite side, then down to the larynx and back to the parotid gland, and at the same time the swelling increases considerably. It involves all the intermuscular planes and the muscles themselves between the mouth and hyoid bone. The tongue rests on a floor of hardened tissue, deeply congested, which lies like a bolster in the mouth. Opening the mouth is difficult, and the power of speaking and swallowing much interfered with. During the four to six days this is going on, the general health does not seem to suffer. The fever is moderate and the symptoms of no intensity. Now the skin over the swollen part begins to get red, and masses of phlogistic lymph appear in the mouth ; the swelling gets softer and pits on pressure, then a spot softens either on the floor of the mouth or below the side of the jaw and discharges a stinking, greyish-red fluid. As soon as this breaking down process, which is a species of gangrene, sets in, symptoms of general constitutional implication quickly show themselves, the fever increases, profuse sweatings, with sleeplessness and slight delirium are a marked feature. The tension of the inflamed parts increases, swallowing is more difficult, and attacks of dyspnœa come on usually in paroxysms, calling sometimes for immediate tracheotomy. In four or five days the patient dies in a typhoid condition. The inflammation of the celluar tissue frequently extends into the anterior mediastinum. In many cases the duration of the disease is much shorter, the patient dying in three or four days. This affection is said to occur at times in an epidemic form.

As the inflammation is situated beneath the deep fascia of the neck, an early and free incision is the only treatment, as by this means gangrene is prevented and the disease arrested before it reaches the anterior mediastinum. The phlegmonous character of the inflammation has lately led some of the French surgeons to deny that this is a special disease, and they name it merely *sub-hyoid phlegmon*.

There has recently been an extended discussion on the subject at the July meetings of the Paris Société de Chirurgie. M. Simon (*Semaine Médicale*, 1892, pp. 212, 284, 292-298) reports a case where the disease spread to the anterior mediastinum and cure resulted from trephining the sternum. In the discussion which followed, M. Nélaton held strongly that all these cases originated from a septic focus, more frequeutly a diseased tooth, often from the wisdom tooth, and regarded all these cases as examples of severe sub-hyoidean phlegmon and not a special disease, as described by Ludwig. M. Delorme mentioned several cases which had been sent into hospital under him as sub-hyoid phlegmon in all of which incision in the median line failed to reveal pus, yet on incising each mylo-hyoid muscle a pocket of pus was found between this muscle and the lower jaw. M. Verneuil looked upon Ludwig's angina as a specific infective angina, and related three ccses in support of his contention, two of which proved rapidly fatal, although free incisions were made early. All these cases occurred in previously healthy individuals, and were characterized by fixation of tongue, rapid œdema, and high fever.

The cases described by most of the speakers in this discussion were those usually seen following a carious tooth or an inflammation due to some difficulty in the eruption of the wisdom tooth. Every surgeon meets many such cases of sub-hyoidean phlegmon, but these are not the cases to which the name *angina Ludovici* has been given. In the latter the œdema is a marked feature, and there is early dyspnœa with profound constitutional disturbance. In making incisions, a fœtid, thin, sanious discharge appears, but no true pus, and the patient, as a rule, rapidly succumbs to the profound sepsis caused by this disease. The dyspnœa frequently calls for tracheotomy, which affords only temporary relief. It seems to me that in this "fulminating" form of phlegmonous inflammation, and which is occasionally epidemic, we have a distinct form of angina, if not a distinct distinct disease,—differing much from those phlegmons of the subhyoid region due to decayed teeth. The results of free and deep incisions in these latter cases are always favourable, and even if pus is not reached, relief is afforded.

Surgery of the Liver and Gall-bladder.—The most important surgical discussion which took place at the recent meetiug of the British Medical Medical Association was on the above subject. It was opened by Mayo Robson (*Lancet*, Aug. 6, 1892), who based his conclusions on seventy cases of operation and on many others in which no operation was performed. In speaking of injuries to the liver attended by severe hemorrhage, he said they can be successfully treated by exposing the injury by abdominal incision and plugging the liver wound with iodoform gauze; afterwards a drainage-tube should be inserted and the external wound closed. When abscess has been found by exploratory needle, the liver should first be sewn to the parietal peritoneum before opening the abscess cavity, and where this is not possible, the abscess should be evacuated and carefully packed with iodoform gauze. Free drainage is here the secret of success. Subphrenic abscesses he opens through the lower intercostal spaces.

Mr. Robson had operated on no less than fifty cases of cholelithiasis with a mortality of three cases only, and each of these had been complicated by malignant disease. None of his simple cholecystotomies had died. He thought the operation where the gall-bladder was sewn to the external wound was a better operation than the ideal one in which the opening in the bladder was sutured and the bladder returned into the abdominal cavity. When it becomes necessary to open the cystic duct, suture of the opening to the parietal peritoneum or the introduction of a large drainage-tube are the best procedures.

Mr. Lawson Tait entirely agreed with the views enunciated by Mr. Robson. He said hepatotomy was a safe operation if performed early enough, but resection of the liver for cancer had no sympathy from him. In his operations for gall-stones, death had only occurred in those cases where cancer was present. Mr. Tait presented a table of cases which showed 21 exploratory incisions with 4 deaths, 18 hepatotomies with 2 deaths, and 71 cholecystotomies with 4 deaths,—about 9 per cent. of deaths in all operations.

Mr. Jordan Lloyd called attention to the importance of diagnosing before operation, not only the presence, but the exact locality, of the gall-stones, for the reason that the dangers of cholecystotomy depend more on the position than the size and number of the stones. It is a safe operation so long as the stones can be removed through the opening made in the gall-bladder; but if the common duct has to be opened, the risks of the operation are enormously increased. Hepatic colic without subsequent jaundice and without a tumour as a rule locates the stone strictly within the gall-bladder. Hepatic colic without jaundice, but with subsequent tumour, locates a stone within or at the mouth of the cystic duct. Hepatic colic with ague-like paroxysms, rigor, high temperature and sweatings, followed by jaundice, locates the stone in the common duct. If a tumour be not present, the gall-bladder is probably puckered up by chronic inflammatory changes. Persistent jaundice is generally the equivalent of malignancy.

Resection of the Liver for Hepatic Tumours.—Dr. W. W. Keen gives the results of analysis of 20 cases of liver resection (*Boston Med. aud Surg. Journal*, April 28, 1892). The ages of these cases varied from 21 to 58 years. Sixteen cases occurred in females, which the author thinks may be due to tight-lacing. The tumours and portions of liver removed have varied in size from a small nut up to three fists. Of the 20 cases, nearly all were incorrectly diagnosed; some were thought to be floating kidney, others tumours of the pancreas. The tumours were echinococcus and hydatid cysts, cancer, syphilis, sarcoma and adenoma. Dr. Keen thinks that, judging by experiments on animals, a large portion of the liver can be removed without much danger and without interfering with its function. Ponfick found that three-fourths of the liver could be removed, although prostration was very severe at first. The escape of bile into the peritoneal cavity is generally of no consequence. In preventing hemorrhage the base of the tumour should be severed by repeated small touches of the cautery point, the large vessels being all ligated. In the majority of cases the stump was returned into the abdominal cavity; in six cases, however, it was sutured in the abdominal wound. Of the 20 cases, 17 recovered, two died, and in one the result is unknown. The mortality thus far has been about 10 per cent.—(Quoted in *Univ. Med. Mag.*, July, 1892.)

Czerny (*Deutsche Med. Woch.*, June 8th, 1892), in a review of the history of the surgery of the gall-bladder, divides the cases into those with jaundice and those without. He summarizes as follows:

(1) Gall-stones call for operative measures when they give rise to long-lasting troubles.

(2) Empyema always calls for operation, and also hydrops when serious symptoms arise.

(3) The typical operation for stone in the gall-bladder consists in incision, emptying and suturing the bladder, the abdominal wound being drained for a short time.

(4) When the cystic duct is occluded or the gall-bladder itself is inflamed, or when its contents are much altered, a temporary fistula of the gall-bladder should be made.

(5) Extirpation of the gall-bladder is only indicated by markedly inflammatory or carcinomatous conditions.

(6) In occlusion of the common duct, operation is always indicated when the strength of the patient permits. When it is not possible to remove the obstruction, a fistula should be established between the gall-bladder and duodenum.

(7) Access is best obtained in operations on the gall-bladdrr by means of an L-shaped incision, the longitudinal branch of which is made in the linea alba and the horizontal to the patient's right from a point immediately below the umbilicus.

(8) The danger to life of operations for gall-stones appears to be less than in that for removal stone in the urinary bladder.—(Quoted in *Univ. Med. Mag.*, Sept., 1892.)

Spinal Surgery..—Dr. Rieder has lately, in the *Annals of the Hamburg City Hospital*, reviewed the cases of spinal surgery treated in that institution for several years past. He groups them under the heads—(1) Injuries to the spinal cord without injury to the bony envelope. (2) Tumours compressing the cord. (3) Injuries to the spine treated without operation. (4) Injuries to the spine operated upon. In the cases of spinal cord injury from fracture, thirteen cases were not operated upon, viz., five in the cervical region, seven in the dorsal, and one in the lumbar. All died excepting one of the dorsal cases, in which there was decided improvement, and in which Sayre's jacket was employed. In the operative series there are only three cases, with one death, one unimproved, and one improved. In the case that died, the autopsy showed that the cord had been completely destroyed and the canal blocked by a fibrous mass; he was not operated on until a year after the accident. The second case was operated on a year and a quarter after the injury; his symptoms were increased for a time after removal of the arches, which was done with mallet and chisel: there was no improvement in his condition. The third case was operated on sixteen hours after injury; compression of the cord was found and relieved; he made an absolute recovery. Dr. Rieder says that these cases illustrate very forcibly the fact that if any benefit is to accrue from operative interference in this class of cases, it should be undertaken early, before degeneration due to compression had advanced and destroyed all hope of improvement. As yet we cannot certainly tell when the destruction of the cord has been complete and when the arrest of function is due to the effects of compression. In all cases where paraplegia, total anæsthesia and paralysis of the bladder and rectum cause a severe alteration in the cord, only an operation will afford a chance of attaining an improvement approaching a cure in favourable cases.—(*Condensed from Anuals of Surgery for Sept.*, 1892.)

Temporary Resection of the Vertebræ.—Urban of Leipsic (*La Semaine Médicale*, No. 31, 1892), in cases of paraplegia from compression of the spinal cord following fractures of the vertebræ, recommends temporary resection. An incision is made on both sides of the spinous processes running vertically down to the transverse processes; then a certain number of laminæ are cut through and left adherent to the soft parts; the vertical incisions are united by a third, and thus a large rectangular flap is formed, which gives free access to the vertebral canal. The cause of the compression being relieved, the flap is replaced and sutured. Urban has practised this operation several times with successful results. He cites the case of a young man who, in consequence of a fall, had suffered for six months from complete paraplegia. Six weeks after the operation this patient commenced to get up and about, and the paralysis disappeared little by little. And a young woman who was completely paralyzed in the lower extremities from a fracture of the lumbar spine, twenty-four hours after the operation a slight return of sensibility was noticed. In two cases of spondylitis the operation was successfully performed, the projecting part being resected. —(Quoted in *Annals of Surgery*, August, 1892.)

Excision of Rectum for Carcinoma.—Schmidt (*Berlin. Klin. Woch.*, June 18, 1892) discusses the present methods of dealing with rectal carcinoma, and points out that all the operative measures for resection fall under two headings—the sacral method and the perineal method. He then gives the results obtained in Czerny's clinic. As a general rule, the death-rate in cases operated on by the sacral method is greater, not on account of the severity of the operation, but because by this method many cases were treated which could not have been operated upon by the perineal method owing to the advanced state of the disease. In 36 patients operated on by the sacral method the mortality was 7, or 19.4 per cent. Out of 32 cases operated on by the perineal method the death-rate was 1, or 3.1 per cent. Hence in 68 cases of operation for cancer of the rectum the total mortality was 8. Out of 59 radical operations, 25 died during the last six years, and of 28 still surviving, 18 were operated on by the sacral method and 10 by the perineal method. Of 12 living two years after operation, 4 showed a recurrence of the disease. The longest survival after operation was five years and nine months.—(Quoted in *Sup. of Brit. Med. Jour.*, Aug. 8, 1892.)

The Treatment of Imperforate Anus.—In an interesting paper on the above subject (*Brit. Med. Jour.*, June 4th, 1892) Mr. Harrison Cripps says malformation of the anal outlet is rare, occurring about once in every 3,000 births. In this paper he deals with the two commoner forms. The first, in the male, where there is no trace of an anus at all, or where it terminates in a cul-de-sac a short distance from the surface ; the second, in the female, where there is no anus, a small aperture existing in the posterior wall of the vagina communicating with the bowel. In the treatment of the first variety, the rectum may terminate so close to the surface that a simple incision is all that is required ; generally the blind end of the bowel is some distance from the anus, often well within the abdominal cavity. In three cases the position of the bowel and its relation to the peritoneum require careful consideration. The peritoneum is not merely reflected over the anterior surface of the bowel, as usually figured, but it is continued right over the blind end of the bowel, the reflection taking place close to the sacrum. This explains why peritonitis follows blind puncture with a trocar. To operate successfully the infant must be placed in the lithotomy position and an incision made in the middle line over the site of the anus to the tip of the coccyx; the edges of the cut being separated a careful dissection upwards should be made, care being taken to keep close to the sacrum; in this way the bowel may often be reached without opening the peritoneum. In some cases the operation cannot avoid opening the peritoneum, and then the bowel, after being pulled down through this opening, should be stitched to the edge of the skin, and the punctured peritoneum should then be stitched to its surface. The bowel cannot be easily brought down until it has been opened and relieved of the meconium which distends it.

The ultimate success of these cases depends largely on the after treatment, for the tendency to closure of the opening exists for a year or two, but the time comes when the contraction ceases, the opening remaining permanent and giving no further trouble. In order to avoid this contraction Mr. Cripps advises the wearing of a vulcanite plug two inches in length and made slightly conical. The diameter in the middle should be half an inch, and there must be a broad flange at the base to prevent its slipping in. This plug should be worn about a year. Mr. Cripps has never yet met with a case in which the bowel could not be found *in situ*; should he do so he would perform inguinal colotomy.

In the second variety of cases, if the opening in the posterior wall of the vagina be sufficiently large to give relief to the meconium, the operation may be deferred until by the growth of the child the parts are more developed. The operation here consists of passing a strong bent probe through the fistula into the rectum. There is generally a pouch of the rectum extending below the opening, and it can in this manner be made prominent and cut down upon by an incision between the vagina and coccyx and then opened and stitched to the skin. At a subsequent period, when the natural outlet is well established, should the fistula give trouble, it should be closed. Mr. Cripps narrates five cases of imperforate anus in which he has lately operated. All the cases were reached from below, and all were doing well when last heard from. One child was four years old.

Extirpation of the Ileum for Tuberculosis.—Sachs (*Archiv f. Klin. Chir.*, 1892, Bd. 43) reports the following case. A woman, æt. 41, had suffered for a long time from constipation, and for two years had had loss of appetite and debility. On examination a hydronephrosis of the right kidney was discovered and also a swelling in the right iliac fossa which was supposed to be of a malignant nature. Laparotomy was performed, when the right iliac fossa was found to be filled up by a hard tumour the size of the closed fist. Surrounding the ileum was a band of contracted fibrous tissue, with tubercular granulations in places. The diseased parts were resected and the two ends of the intestine joined by enterorrhaphy. The patient recovered, and was quite well at the end of fifteen days. On examining the specimen, a large tuberculous mass, which extended to the mesenteric glands, was seen at the point where the ileum joined the cæcum. The mucous membrane of the cæcum was replaced by a nodulated membrane, the nodules of which extended into the muscular coat, and, on microscopic examination, were seen to consist of epithelial and giant cells. The author reviews 13 cases of tubercle of the ileo-cæcal region treated by resection. He says the diagnosis is very difficult, cases being diagnosed as malignant disease. Of the 13 cases, 11 recovered.—(Quoted in *Brit. Med. Jour.*, June 25th, 1892.)

Ligature of the Internal Iliac for Gluteal Aneurism.—Dr. L. L Williams (*N.Y. Med. Jour.*, Aug. 20, 1892) reports the case of a man, æt. 35, who suffered from gluteal aneurism, which came on without apparent cause. Potassium iodide with rest in bed failing to have any effect, and as the pain was severe and the tumour rapidly increasing in size, it was decided to ligature the internal iliac artery. A median abdominal incision was made, the artery reached through the peritoneal cavity and ligatured with silk, and the abdominal wound closed. There was still some pulsation in the tumour after ligature, but this gradually decreased, and a month later the aneurism felt like a "base-ball." A heart lesion developed, and patient died two months after operation, the pulsation in the tumour not having altogether disappeared. No autopsy was allowed.

Excision of Cirsoid Aneurism of the Temporal Region.—At a meeting of the New York Surgical Society, held April 13th, Dr. Willy Meyer presented a man, aged 57, who, ten years ago, had been hit by a stone in the left temporal region, which resulted in the formation of a cirsoid aneurism, for which operation was performed. Dr. Meyer first tied the right external carotid artery and then made an incision from the top to the bottom of the tumour. In spite of the ligature of the artery, the hemorrhage was so severe as to require the use of Esmarch's bandage around the head, which at once stopped the hemorrhage and rendered the operation easy. After the removal of the whole tumour and ligature of all the vessels the wound was closed, and healed in ten days under one dressing. The speaker said that in cases of this kind the whole tumour might be removed, or a large ellipsoid piece might be cut out of the mass of enlarged arteries. All the divided vessels should be tied and then the wound dressed before the elastic band around the head is removed.—(*N. Y. Medical Journal*, Aug. 20, 1802.)

Aneurism of Ascending Aorta unsuccessfully treated by the Needling Method.—Weir and Page (*N. Y. Med. Jour.*, vol. liv., No. 19) report a case of aneurism which was treated without success by the needling method of Macewen of Glasgow. This method Weir applied in three sittings. He used needles varying in size from one-half to one and one-fifth millimetres in diameter, their length being six inches. He found the larger needles more efficient, but only allowed them to remain *in situ* about forty minutes, as the walls of the aneurism were considered too thin for safely leaving them longer. The largest area scratched did not exceed, at any of the sittings, the palm of the hand. No serious symptoms were shown by the patient; there was slight spouting of blood after the withdrawal of the larger needles, but it was easily controlled by the finger. There was also some coughing with expectoration of blood, probably due to wounding the lung posteriorly. The patient died two months after the last operation, the treatment being discontinued at the request of the relatives. The post-mortem showed but slight deposits of leucocytes and fibrin, and the results of the treatment were so far negative. The aneurism was 6½ by 8 inches, springing from the ascending aorta, and its walls were extremely thin.

Such large aneurisms, it appears to me, would be better treated by Tufnell's method of rest, starvation, and the use of potassium iodide.

Aneurism of the Descending Aorta successfully treated by Bacelli's Method.—Bourget of Lausanne reports the case of a patient under his care (*Annales de la Suisse Romaine*, No. 5, 1892) in the hospital at Lausanne, Switzerland, suffering from pulmonary tuberculosis and also symptoms of aneurism of the descending aorta. It had gradually worn away the body of a vertebra and one or two ribs, and seemed to enlarge in the space between the scapula and the spinal column. In order to bring about a coagulation of the blood in the sac Bacelli's method was tried. A watch spring 2 mm. broad and 5 cms. long, with a spiral 5 cms. in diameter, was chosen. The extremity was sharpened, and it was placed in a boiling solution of hydrochloric acid in order to render it aseptic, and more to cover it with a film of ferric chloride. A small slit was made in the upper portion of the sac, and while an assistant held the spiral unwound, the end was introduced through the wall of the sac and the entire spring was introduced with the greatest ease, recoiling itself immediately; the slit was then closed. The patient did not complain of any painful sensations either during or after the operation. The temperature remained normal during the entire period of treatment. The tumour decreased in volume, the intercostal pains diminished in intensity, together with those along the spinal column. A month after, an exploratory puncture into the sac did not reveal blood in the sac, and the needle transmitted the impression of an elastic mass of some resistance. The pulsations were much decreased in extent and intensity, and the patient gained considerably in weight. At time of writing patient was still improving.—(Quoted in *Annals of Surgery*, August, 1892.)

Treatment of Aneurism of the Arch of the Aorta by Temporary Ligature of the Thoracic Aorta.—M. Villar (*Jour. de Méd. de Bordeaux*, No. 27, 1892) has lately tied the thoracic aorta for aneurism of the arch, with, of course, a rapidly fatal result. The patient operated on by this bold and, I might say, rash young surgeon suffered from the usual form of aneurism of the arch, and had got to such a condition that his days were numbered; all kinds of treatment had been tried without result, so M. Villar decided to give the already doomed patient another chance by operation. In the left dorsal region, between the scapula and the transverse processes of the vertebra, a vertical incision about seven inches long was made from the 3rd to the 6th ribs; at the lower end of this incision another was made at right angles; two ribs were cleaned of their soft parts and five centimetres removed from each. The pleura was opened chiefly because it was adherent and the lung prolapsed; so the lung was replaced and the pleura pushed aside in order to reach the thoracic aorta. This vessel was easily found, but it was also found that there was a large aneurismal sac in the posterior mediastinum, and the operator did not think it prudent to go any further, so he satisfied himself with compressing the aorta against the vertebral column. His intention was to pass a ligature around the aorta and from time to time to tighten it so as to arrest the flow of blood through the aneurismal sac. The wound was dressed with iodoform gauze and antiseptic dressings. The patient died next evening. The results in ligature of the abdominal aorta have been equally fatal—eleven operations with eleven deaths. It seems to me that M. Villar's operation is not likely to be imitated, for the same results could have been obtained by compressing the abdominal aorta.

Dr. D. D. Stewart reports a case of *Aneurism of the Abdominal Aorta treated by Electrolysis through an introduced wire.* (*Amer. Jour. Med. Sc.*, October, 1892.) The writer states that but seven cases had been previously treated in this way, a good result occurring in two cases. In Dr. Stewart's case, Tufnell's treatment with rest and potassium iodide were tried with good success, but patient going back to work the improvement ceased to be maintained. Pain was excruciating, and there was much bulging on the back from ninth dorsal to lumbar region. This swelling pulsated and the aneurism threatened at any moment to burst through its thin walls, so operation was undertaken more to promote prompt formation of firm protecting coagula than with the idea that a cure could be effected. Two and one-half inches of silver wire of good size were introduced through a cannulated steel needle, and two platinum needles introduced into the sac. The current was applied until seventy milliampères were reached, and was maintained at this strength for one hour. By the third day the pulsation in the swelling was much less and the tumour had become smaller and harder. There was, however, considerable pain, and on the ninth day he suddenly died from the bursting of the aneurism. At the autopsy the wire was found coiled up in the sac, and was engaged in several firm clots which were of a solid texture. The bodies of the dorsal vertebræ were much eroded and the ribs in parts had entirely disappeared. The rupture of the sac was at its upper end and extended into the base of the left lung. The case was a desperate one from the first.

Ligature of the first portion of the Subclavian Artery and Excision of a Subclavian-Axillary Aneurism.—Halsted (*Johns Hopkins Bulletin*, vol. iii., No. 24) reports the case of a coloured man, 52 years old, who for eight months had noticed a pulsating swelling below the left clavicle progressively increasing in size. The tumour was smooth, almost spherical, and measured sixteen inches in circumference at its base. Slight pulsation was visible and palpable. The mass appeared to be solid, but elastic. No pulse could be felt in left wrist or at any point below the aneurism. An incision was made from the sternal notch to the acromio-clavicular articulation, thence down the arm to the lower border of the great pectoral muscle, over the greatest convexity of the tumour. From the inner extremity of this incision a vertical incision upward was made, some two inches long; a third incision about four inches long was made vertically downward from the middle of the horizontal incision; and finally, a vertical incision one and a half inches long was made upward at the acromio-clavicular articulation. The flaps of skin were laid back. The wall of the aneurism was found soft, thin, and inflamed. Two silk ligatures were applied to the artery as it emerged from the chest, and the vessel was divided between them; the aneurism was then removed in one piece. The axillary artery was ligated at the beginning of its second part. The operation took three and a half hours. The wound healed perfectly. Sixty days after the operation the patient had excellent use of his arm.

Chloride of Zinc Injections in Ununited Fracture.—At the recent congress of surgery in Paris, Ménard reported the following case (*Rev. de Chir.*, May, 1892). A man, aged 43, sustained an oblique compound fracture of both bones of the leg. Within half an hour of the fracture the leg was put up in plaster an an antiseptic dressing applied. Hemorrhage persisted for forty-eight hours, after which a fresh plaster bandage was put on and left for forty-seven days. On removing it, no attempt at union was found to have taken place. A plaster bandage was again tried for a month, without result. The limb was again immobilized, but five months after the accident there was no appearance of union. Remembering Lannelongue's experiments on the formation of bone in rabbits as the results of injections of chloride of zinc into the periosteum, Ménard then injected 1.25 grammes of a 1–10 solution of zinc chloride into the outer and posterior surfaces of the tibia and into the space between the fragments. The injections caused a good deal of pain, but after immobilization of the limb for a fortnight the swelling of the soft parts had completely disappeared, and the seat of fracture was surrounded by a firm callus. A month after the injection consolidation was complete and the patient was able to walk.

Resection of the Urethra.—Horteloup (*Sem. Méd.*, May 18, 1892) has performed resection of the urethra in eleven cases. He thinks the method inapplicable in inflammatory stricture, but useful in traumatic cases. Four years ago he presented to the Academy of Medicine a patient in whom he had removed 4 cm. of the urethral canal, and the man was well ever since.

Two months ago he had operated on a boy of 15. A No. 16 catheter could now be easily passed. Horteloup does not advise suture of the resected urethra. Where there is an extensive stricture with fistulæ, suture is impracticable ; in a recent case he removed 7 cm. of the urethra, and the case did well without suturing. Neither does he recommend tying in a catheter for a prolonged period of time. These operations, he says, always necessitate very large external incisions ; these he does not completely close, but always leaves a small opening. He ties in a catheter for two days, after which the patient passes water through the perineal button hole, a bougie being passed every two or three days. Cure is slow, but sure and complete.—(Quoted in *Brit. Med. Jour. Epitome*, June 4, 1892.)

Treatment of Spinal and other Tubercular Abscesses.—Mr. Frederick Treves treats them as follows. (*Lancet*, May 21st, 1892.) An incision is made into the abscess at the most convenient spot, and, whenever possible, at the most dependent point. It should be so placed as to command all parts of the abscess, and to allow access of sound skin. The pus is allowed to escape, and the abscess cavity is then washed out with a hot solution of sublimate (1–5000). Many gallons of the solution are required. When the fluid returns clear the fingers are introduced into the cavity, and the caseous semi-solid matter which exists in such quantity in these abscesses, and which is not wholly removed by flushing, can be dislodged. By means of the fingers the septa in the cavity may be broken down, diverticula may be opened up, and by the aid of the finger-nails a considerable quantity of smooth, slimy, lining membrane may be removed. Repeatedly the cavity is flushed out with the warm solution. The lining wall of the cavity is now carefully and thoroughly scraped with a Volkmann's spoon until the whole surface has been laid bare. Every once in a while all the debris is flushed away. After the scraping and flushing have removed all signs of the lining membrane, comes the most important part of the operation—the rubbing of the abscess wall with sponges and the thorough drying out of the cavity. By means of sponges on holders the whole of the abscess wall is thoroughly rubbed, and it is surprising what a quantity of inflammatory material in the form of slimy lining membrane, and even cheesy pus, comes away upon these sponges. The sponging process is tedious, but it leaves the cavity practically dry. The abscess cavity is now a raw space, almost comparable to that which would be left after the removal of a large adherent tumour. The oozing of blood, which is at first considerable, soon ceases, and the last sponge should be withdrawn practically unsoiled. The incision is then completely closed with silkworm-gut sutures. No antiseptic is introduced into the abscess cavity, and no drainage is employed. As far as possible the abscess cavity is obliterated by pads. An abscess which has become thoroughly septic may be treated in the same manner. In spinal abscesses certain difficulties arise, the chief of which depends upon obstacles in the way of the complete evacuation of the abscess and the complete removal of its lining membrane. The depth of the cavity, its great length, and its position within the abdomen, place difficulties in the way. In cases of recurrence of the abscess after this method has been employed, the cavity should be injected with a solution of iodoform, if it is so placed that aspiration may be safely performed.

A Critical Study of Renal Surgery.—Wagner (*Deutsch. Zeitschrift f. Chir.*, Bd. 34) devotes 32 pages to a casuistical study of the surgery of the kidney. Nephrotomy is advised instead of nephrectomy in cases of renal calculus. Wandering kidney is to be treated by suturing the organ in place. Nephrectomy is suitable for malignant growths, whether sarcomatous or carcinomatous. Benign tumours of the kidney are very rare, and generally only recognizable as such after removal. In cases of large solitary cysts, as well as in echinococcus cysts, nephrotomy is to be the primary operation, and nephrectomy is to be reserved for a secondary procedure if found necessary. An exception to this course is to be made in the case of a tuberculous kidney, in which the opposite kidney is healthy. Wounds of the kidney are to be treated by rest in bed and the application of ice, opiates being given if the pain is severe. The catheter is not to be used if it can be dispensed with. In gunshot or shot wounds, the patient is apt to be in such a state of collapse as to prohibit operation. Eight cases of nephrectomy are recorded for this cause, with three recoveries. Statistics show that double hydronephrosis is much more common than is the single form, being in the proportion of two of the former to one of the latter.—(Quoted in *Univ. Med. Mag.*, Aug., 1892).

Reviews and Notices of Books.

Materia Medica and Therapeutics. By L. F. WARNER, M.D., Attending Physician, St. Bartholomew's Dispensary, New York. Being Vol. V. of the Students' Quiz Series. Pocket size, 224 pages. Philadelphia: Lea Bros. & Co.

Genito-Urinary and Venereal Diseases. By CHARLES H. CHETWOOD, M.D., Visiting Surgeon, Demilt Dispensary, Department of Surgery and Genito-Urinary Diseases, New York. Being Vol. VIII. of the Students' Quiz Series. Pocket size, 178 pages. Philadelphia: Lea Bros. & Co.

Obstetrics. By CHARLES W. HAYT, M.D , House Physician, Nursery and Children's Hospital, New York. Being Vol. XI. of the Students' Quiz Series. Pocket size, 190 pages. Philadelphia: Lea Bros. & Co.

These handy little volumes are intended for the use of students, although a perusal of them would not be waste time for many practitioners. They are written in the form of question and answer, and are clear and distinct in their statements. The one on Materia Medica is based on the U.S. Pharmacopœia, and therefore the preparations and doses are not in all instances the same as used in Canada. They are handy for reference, but do not take the place of standard books on the various subjects.

The Student's Handbook of Surgical Operations. By FREDERICK TREVES, F.R.C.S., Surgeon and Lecturer on Anatomy at the London Hospital. In one square 12mo. volume of 508 pages, with 94 illustrations. Philadelphia: Lea Brothers & Co.

This wook is abridged from the author's large " Manual of

Operative Surgery," and merely concerns itself with the most essential and commonly performed operations. It will be of use as a handbook to students preparing for examination or for a course of practical surgery upon the cadaver. Further than this the usefulness of the book does not extend, for the value of various operations is not discussed, nor are any details of treatment or descriptions of instruments given.

Selections.

ON THE DIGESTIVE FERMENT OF THE CARICA PAPAYA IN GASTRO-INTESTINAL DISORDERS.

By Dr. Frank Woodbury.

During the past year, having devoted considerable attention to the clinical applications of papoid, especially in digestive disorders, I have had the satisfaction of witnessing a number of very interesting results, to which I wish briefly to direct attention. The successful application of physiological data must be my excuse for again directing attention to a remedy which has been studed by such eminent investigators as Wurtz and Bouchet, Finckler, Rossbach, Roy and Wittmach, and one, furthermore, the physiological and therapeutical actions of which, at the present day, may be regarded as pretty fully established. If I have little of novelty to offer as regards the agent employed, I may at least point out very briefly some of the clinical uses and the conditions of its successful employment. If I accomplish this modest task the labour will not be in vain, since success in therapeutics depends upon the pharmaceutical preparation and mode of administration, in many instances, as much as it does upon the selection of the proper remedy.

There were two considerations that especially led me to study the clinical applications of the juice of the Papaw to disorders of digestion. The first was the relatively large number, both in private practice and clinical service, of patients otherwise enjoying good health, but complaining of digestive disorders. The second was the following statement of Lauder Brunton's, which I encountered some years ago:

"In the West Indies a tough beefsteak is rendered tender by rubbing it with the juice of a fresh papaw fruit, which contains a ferment, having an action very much like the trypsin of the pancreas."

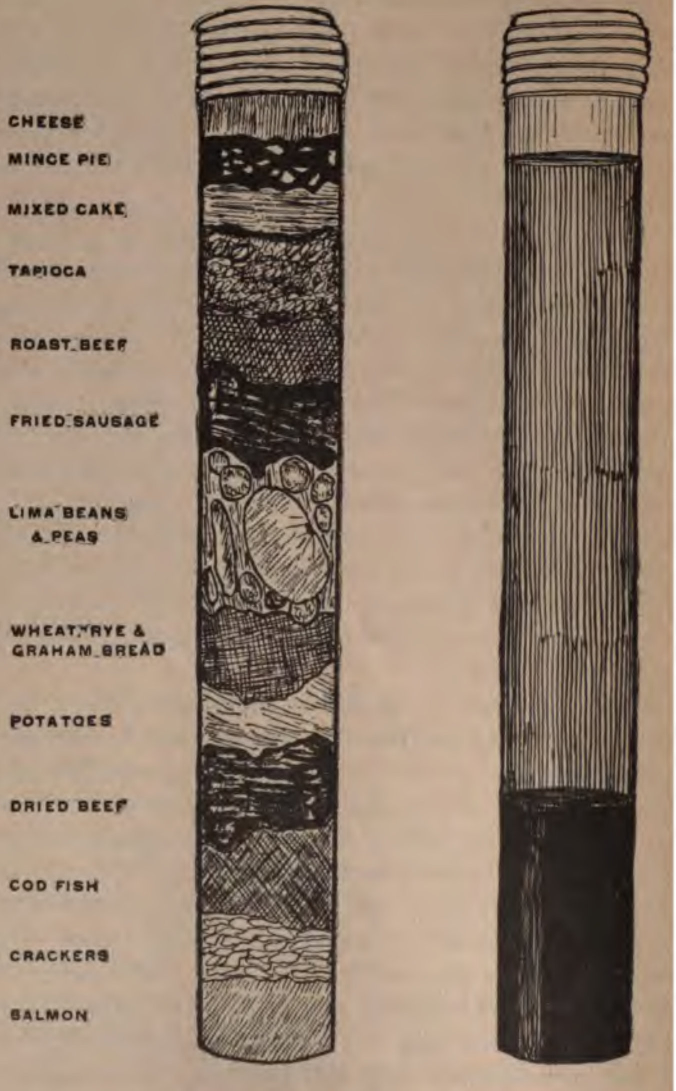
The line of argument that would naturally be followed by the mind after receiving such a statement would be this: "A tender beefsteak is more easily masticated and digested than a tough one; consequently an agent possessing the power of making this change must be of considerable value as an aid to digestion when weakened from any cause."

Before considering the therapeutics of this unique remedy, however, I may briefly summarize its physiological actions and other properties.

Papoid is a fine cream-white powder, almost devoid of odour and taste, freely soluble in both water and glycerine, and claimed to be of uniform digestive activity. The physiological actions of papoid as a digestive agent have been thoroughly established. It acts upon albuminoids, hydrating them and converting them ultimately into peptones, as fully demonstrated by George Herschell. It converts starch with great promptness, the ultimate product being maltose. It emulsifies fats. Moreover, Herschell declares that it has a direct tonic action on the stomach, stimulating the secretion of gastric juice or pepsinogen. Papoid, according to the same authority, is distinctly antiseptic in its action, and prevents abnormal fermentative processes from taking place in the stomach and intestines. An important point is, that it can be given in conjunction with true antiseptics, such as salol, when necessary, without its digestive action being checked; even corrosive sublimate in dilute solutions does not interfere with its digestive powers. It acts at all temperatures, but attains its maximum activity at a temperature of about 130°F. In several important points it differs from pepsin. Papoid acts best in an alkaline solution, but also can work in fluids with an acid or neutral reaction; pepsin requires an acid solution. Papoid is freely soluble and is most active when in concentrated form; pepsin requires free dilution. Herschell also points out the greater digestive power possessed by papoid than either pepsin or pancreatine, and states that "it can be used when pepsin is contra-indicated or powerless." Finally, it should be stated that papoid has no action upon living tissues, and is positively innocuous when swallowed in any quantity that is likely to be administered.

Therapeutically, confining these remarks strictly to digestive disorders, papoid is useful when digestion has been overtaxed, or when the secretion of gastric juice is absent or deficient. Experiments of my own and others have satisfied my mind of the remarkable digestive activity of papoid. For instance, in one of the experiments referred to, portions of the constituents of a hearty dinner of bread, meat, potatoes, peas, mince-pie, and other substantials were placed in a large test-tube and treated with papoid and bicarbonate of sodium and a small amount of water. The result was very satisfactory indeed; the meat rapidly softened and the other ingredients gradually disintegrated, forming a pultaceous mass which finally separated into a grumous sediment and an overlying albuminous, dark-coloured liquid.

Since papoid acts in alkaline solutions even better than in acid media, it is evident that it is specially useful where there is indigestion due to deficient secretion of gastric juice or of hydrochloric acid (achlorhydria). In such cases, the administration of an alkaline solution of papoid favours gastric digestion both directly and indirectly,—first, by digesting albuminates and softening masses of food; and, secondly, by the action of the papoid in stimulating the secretion of the pepsin gland, while the alkali induces the secretion of a more acid gastric juice. Moreover, it retards the fermentation of the undigested masses of food in the stomach and prepares them for intestinal digestion. In fact, in such cases a compressed pill of papoid, bicarbonate of sodium, and extract of nux vomica has given me excellent results. In the contrary case, where there is an excess of hydrochloric acid, and where the stomach contents poured into the duodenum are so acid that they prevent the action of the trypsin, papoid


CHEESE
MINCE PIE
MIXED CAKE
TAPIOCA
ROAST BEEF
FRIED SAUSAGE
LIMA BEANS & PEAS
WHEAT, RYE & GRAHAM BREAD
POTATOES
DRIED BEEF
COD FISH
CRACKERS
SALMON

ILLUSTRATING ARTICLE
BY PROF. WOODBURY
ON PAPOID.

prevents duodenal indigestion by taking the place of the pancreatic ferment. As Herschell points out, it is obviously of no use to give pancreatin by the mouth, as it is at once destroyed by the action of the stomach, and it is practically impossible to administer sufficient alkali to neutralize the excess of acid, and it would, moreover, be unwise, because it would stimulate still further the secretion of the acid. Papoid is of the greatest use here, because its activity is not materially affected by contact with acid.

In gastralgia, which often accompanies the condition just named, papoid, with bicarbonate of sodium, gives immediate relief. On account of its well-marked sedative action, it is also useful in irritable stomach, nausea, and vomiting. In sea-sickness, I have not had an opportunity as yet of using it, but I would anticipate decided relief from its administration. In gastric catarrh and the catarrhal conditions of the intestinal tract, popularly known as biliousness, papoid administered in hot water fifteen minutes before meals, or upon rising in the morning, cleanses off the mucous and places the mucous coat of the digestive organs in a good condition for secretion. Constipation, especially in children, is often caused by imperfect digestion. In infants, for instance, the fæcal masses consist largely of casein. Here, a digestive agent is the rational remedy to administer, and, in fact, I have used papoid with good results in just such cases, even in very young infants. On account of its sedative action, it is very efficient for the relief of colic in infants, as well as persistent vomiting. Its antiseptic action and its ability to digest in the presence of antiseptic agents makes it useful in the treatment of irritative diarrhœa in young children, to whom it may be given in combination with salol or salicylate of bismuth. In apepsia of young children, or in that form of deficiency of the gastric juice in adults due to atrophy of the gastric follicles as the result of chronic catarrhal processes, the glycerin solution of papoid (1 to 20), is especially effective. It is permanent and retains its activity for a long time, whereas watery solutions should be freshly made or they will not keep their digestive power. (This may possibly be explained on the ground that in the presence of water, papoid, being an albuminoid body, partly undergoes hydration and digests itself). Furthermore, as already stated, watery solutions of papoid, like other albuminous fluids, are apt to become attacked by bacteria and undergo decomposition after standing for several days.

The uses of papoid in treating disorders of the digestive organs may be summarized somewhat as follows:—

1. In actual or relative deficiency of the gastric juice, or its constituents.
    - (*a*) Diminished secretion of gastric juice as a whole.
        Apepsia.
        Anæmia and deficient blood supply.
        Wasting diseases.
    - (*b*) Diminished proportion of pepsin.
        Atonic dyspepsia.
        Atrophy of gastric tubules.
    - (*c*) Diminution of hydrochloric acid.
        Achlorhydria.
        Carcinoma.
    - (*d*) Relative deficiency of gastric juice.
        Over-feeding,
2. In gastric catarrh.
    - (*a*) Where there is a tenacious mucus to be removed, thus enabling the food to come in contact with the mucous membrane.
    - (*b*) Where there is impaired digestion.
3. In excessive secretion of acid.
    - (*a*) To prevent duodenal dyspepsia.
4. In gastralgia, irritable stomach, nausea or vomiting.
5. In intestinal disorders.
    - (*a*) In constipation due to indigestion.
    - (*b*) In diarrhœa, as a sedative.
    - (*c*) In intestinal worms. (This claim the writer has not personally verified, but as the intestinal mucous which shields the worms is removed by papoid, it is easily understood that their removal would naturally result after its administration.)
6. In infectious disorders of the intestinal tract.
    - (*a*) Where there is abnormal fermentation; by its antiseptic action, which may be heightened by combination.

(*b*) Where there are foreign substances present, its detergent effect may be utilized in cleaning out the débris from the intestinal contents by digestion.

7. In infantile indigestion ; here papoid not only readily peptonizes cow's milk, but the resulting curds are also soft and flocculent, resembling those of breast milk.

The dose of papoid, ordinarily, is one or two grains, but five grains or more may be used, the only objection being that of useless expense and waste except where very prompt effects are desired, in which case even larger doses of the remedy may be administered. In case of obstruction of the œsophagus by an impacted piece of meat and gristle—such as has been recently reported—a paste of papoid and water with some soda would produce softening in a very few minutes.—(*New York Medical Journal*, July 30th, 1892.

New Method of Artificial Respiration. —M. Raborde reported two cases of apparent drowning in which he had excited the respiratory action by employing forcible rhythmic traction upon the tongue, backwards and forwards. A spoon or the finger is used to keep the mouth open and fix the base of the tongue. At the same time the thorax is enveloped in cloths wrung out of hot water, care being taken not to scald it. This idea was suggested to the author by laboratory experiments upon animals asphyxiated by chloroform, he having noticed that when the tongue was pulled out to straighten the air-passages before commencing artificial respiration, respiratory efforts were frequently excited. This led him to investigate, with the result that he discovered this method which he believes is supe- to all others. " In all cases—and this is my conclusion—never despair, no matter how probable death may appear," is the advice with which he closes the communication which was made to the Académie de Médecine de Paris.—(*Le Bulletin Médical*, July 6, '92.)

Society Proceedings.

CANADIAN MEDICAL ASSOCIATION.

The twenty-fifth annual meeting of this Association was held in the Parliament Buildings, at Ottawa, on Wednesday, Thursday and Friday, 21st, 22nd and 23rd September.

The meeting was called to order at 10.30 A.M. Wednesday, 21st, the past President, Dr. Roddick, in the chair, who introduced the President, Dr. Bray.

The minutes of the previous meeting were read and confirmed.

The following addresses and papers were read during the session :—

President's Address, Dr. J. L. Bray, Chatham.

Tubercular Cirrhosis of Liver ; Encysted Tubercular Peritonitis Simulating Hydatid Liver—Dr. A. McPhedran, Toronto.

Appendicitis—Dr. H. P. Wright, Ottawa.

Discussion in Medicine, " The Treatment of Pulmonary Tuberculosis," Dr. J. E. Graham, Toronto ; followed by Dr. L. C. Prevost, Ottawa.

Lupus Erythematosus—Dr. Bulkley, New York.

Cases Illustrative of the Influence of Diseases of the Female Generative Organs upon the Visual Apparatus—Dr. S. Ryerson, Toronto.

Discussion in Surgery, " Observations on the Progress of Surgery in our own Day," Dr. D. MacLean, Detroit ; followed by Dr. V. H. Moore, Brockville.

Administration of Chloroform and the Dangers incident thereto —Dr. J. D. Balfour, London.

Intussusception and its Treatment by Operation—Dr. F. J. Shepherd, Montreal.

The Dependence of Abnormal Eye Conditions upon Uterine Disease—Drs. T. Johnson Alloway and F. Buller, Montreal.

Gunshot Wound of the Abdomen—Dr. M. J. Abern, Quebec.

Discussion in Obstetrics. In absence of Dr. Cameron, it was taken up by Dr. T. S. Harrison, Selkirk.

Note on Sympathetic Ophthalmia and Evisceration of Eyeball —Dr. R. A. Reeve, Toronto.

Enterectomy for the Cure of Fæcal Fistula—Dr. H. H. Chown, Winnipeg.

Prostatectomy—Dr. G. E. Armstrong, Montreal.

A Rare Case of Spina Bifida with an Unusual Termination—Dr. C. E. Cameron, Montreal.

Case of Gunshot Wound—Dr. T. S. Harrison, Selkirk.

Notes on Eye Lesions consequent on Nasal Affections; Traumatism of the Labyrinth—Dr. Geo. Baptie, Ottawa.

Punctured Wounds of the Eyeball—Dr. A. J. Horsey, Ottawa.

The following papers were accepted as read:—

Treatment of Abortion—Dr. K. N. Fenwick, Kingston.

Management of Goitre—Dr. T. R. Dupuis, Kingston.

Phlebitis of the Left Femoral Vein caused by an Embolism, coming on three weeks after Hysterectomy; Missed Abortion—Dr. J. D. Balfour, London.

An Epidemic of Morbilli Hæmorrhagici—Dr. C. J. Edgar, Sherbrooke.

Radical Cure of Hernia, with a report of seventeen cases of operation—Dr. J. Wishart, London.

Observations on a few cases of Supra-pubic Cystotomy—Dr. Edmund E. King, Toronto.

Clinical Notes—Dr. R. W. Powell, Ottawa.

Hemorrhage in the Newborn—Dr. F. A. Lockhart, Montreal.

An Epidemic of Scarlet Fever with an Anomalous Eruption—Dr. R. E. McKechnie, Wellington, B.C.

Dr. Shepherd exhibited a case in which he had sutured the nerves of the brachial plexus.

Dr. Machell (Toronto) exhibited a specimen of narrowing of the cæcum, removed for obstructive symptoms.

THE CHOLERA.

The **CHAIRMAN**—We have the Minister of Agriculture here, and I would ask now that Dr. Bryce come forward and begin the discussion on cholera. The Hon. Mr. Carling does not wish to make any remarks now, but will do so afterwards.

DR. BRYCE—I have only to remind you that it is not six weeks yet since we had an official notice of cholera being present in Hamburg, that we have had the subject brought before us from that point to England, through the United States ports and to our own various localities to an extent which has created an extreme interest, which epidemics of cholera invariably have done since their first appearance here in 1842. In the limited time at my disposal I shall only refer to two particular portions of the question of what this continent has to do to protect itself against cholera, in view of the fact that we have with us the Hon. Mr. Carling, the Minister of Agriculture, who has to deal especially with the two particular parts of the work to which I will specially address myself. We might speak very naturally in this association of the medical treatment of cholera. I shall say nothing on that point. We might, as some of us are health officers, speak with regard to our duty as local health officers, but there are other questions that have come before me in connection with my work as secretary of the International Health Commission, which I shall specially take up in the few minutes I have before me at my disposal. You remember the International Conference is simply a meeting of executive officers, and after deliberation the president selected a commission of some ten gentlemen, four of whom made the eastern trip to inquire exactly into the border defences against the introduction of the disease into this continent. We started about the first of the month and visited the Grosse Isle quarantine, and from there, the day after the disease appeared in New York, we hurried as rapidly as possible to New York harbor, and there saw, what all of you have read about, the detention of thousands of passengers in the middle of the harbor on infected ships. We went from that point to Boston, to Halifax and St. John, and back again to Philadelphia, Portland and Washington. I may state the general conclusions, and I would say here that if, after discussion, this association think them reasonably practical and well founded, they should in some way or other pass a resolution which will give the Minister some support in his endeavors (which I know are honest) to protect this country, as far as he is concerned, from the introduction of the disease which we all apprehend next year. I may say, in brief, that we have found this—that, assuming the disease to be brought to the continent in ships, there is a great lack at all points generally of provision for the removal of the healthy from infected ships. That is the very thing we found in New York harbor, and it seemed to us absolutely inhuman to see the large ocean ships, with millionaires upon them, lying there for nearly two weeks, exposed every day in most cases to sick members of the crew passing through the ship continually. The first thing we said was, "Get these people off the ships." It was finally done, but after great difficulty. At Boston we had good places to take them to; but this brings up the next point, the insufficiency of means to remove the well from the sick on infected ships. At our own station this was noticed just as at Boston, and still more at New York, where there were thousands lying in the harbor. We likewise concluded that at all points where immigrants are received there must be means for immediate removal to islands, if islands are used for quarantine. The next danger is that at New York—it is not so now at Philadelphia—I think we can say Philadelphia is safe—but at New York and Boston, at the time of our visit, and at our own ports, there was a very great lack indeed of any modern facilities for rapidly and thoroughly disinfecting the baggage which might have been infected before it was packed up and brought on board at Hamburg. That, then, is the next absolute necessity—that we must have modern disinfecting appliances that can rapidly and with certainty destroy any germs in the baggage or effects of immigrants, and next we must have at these points such facilities as shall rapidly and completely disinfect the ship which may have been infected. Now, at no place on our whole tour from Grosse Isle to the port at Washington (that is near Baltimore) did we find any sufficient apparatus for that particular part of the work. So you can see that there is in that direction a very grave question facing us—how much can our Government afford to spend, how much can the Federal Government and the State Governments of the United States afford to spend for this purpose, what shall be its character, and, next, where shall they make their main point of defence? If we have not money to do it at more than two or three points, then it is possible to require all ships with passengers to come to those points. What is demanded is, that here and in the United States, at those points, there shall be absolute defence against ingress. The other point I shall simply refer to, because it belongs to the hon. gentleman's department—it is a question which has arisen with the members of his own Cabinet and with our Government and the various transit companies—what action shall our Government and the United States Government take with regard to bringing in immigrants next year. We know we are to have a great world's fair, and we know there is a large influx certain of a very doubtful class of immigrants from European countries. The immigration to the States last year was over seven hundred thousand. The Grand Trunk Railway brought in nearly forty thousand, mostly from the port of New York, during the last eight months, and our other great railway has brought in some sixteen thousand by way of the St. Lawrence. That indicates that the danger to us is greater via New York than it is to the United States, and it indicates that the United States are not in any way exposed as much to us as we are to them. The question then arises what can we, as medical men, viewing the situation broadly, recommend to all the health authorities with regard to next year? Our opinion is that of many gentlemen in the United States, that excepting, probably, immigration from Norway and Sweden and the British islands, we shall urge that for a year at any rate—that is, next year—there shall be a complete embargo put upon that kind of immigration which comes to this country, especially through the port of Hamburg. You all know what it is, I need not describe it. If any of you have any doubt about it, let him look at the returns at ports of entry. If it once gets into New York and begins to spread, with the people coming out by twenty or thirty lines of railway, you can readily understand what we would be exposed to. The only fight we can make of a real character is the external fight. If, after that, we have to fight it in our individual towns and cities, I trust that with the work done in the present winter by local health organizations, cleaning up everything and making the most positive health regulations, then we will be comparatively free from danger if it gets through our frontier. I trust the gentlemen will continue the discussion as I have indicated, and if possible formulate some broad conclusion that will be useful to ourselves and health officers, and, I have no doubt, of equal use to the Hon. Minister of Agriculture.

Dr. Rogers—What would Dr. Bryce consider as the most rapid and thorough way of disinfecting the baggage and the passengers on ships?

Dr. Bryce—Of course it is a question with a great many details in it, but I may say briefly this—it can be illustrated by one single reference on this continent. At New Orleans, as we all know, every year they suffered greatly from yellow fever from 1876 to 1878. The district during those years was semi-decimated. They introduced a very simple process, putting the infected material into a long cylinder which could be supplied with live steam, rapidly driven in under pressure by a long tube, and kept there until everything in the inside was disinfected. It has been improved upon, and we have now in the one at Grosse Isle one of the most effective that I have seen on the continent. It is about twelve feet long and four feet in diameter. This is for the baggage itself. The other point is, after the persons have been removed they are handled in this way at Philadelphia in an apparatus which was completed last week. They fitted up a ship complete in its details, so they could run out close to the infected ships. They take off fifty or sixty passengers an hour, and put them in large bath-rooms, where they can wash them in an hour, and put their clothing in a superheated room where it can be disinfected. The next hour they take as many more, and in that way disinfect the whole of the passengers. That is the ship of observation. Then they take the baggage off the lighter to the shore and disinfect it in a superheated chamber there. The difficulty is, they cannot at Philadelphia or at New York yet, and we cannot at Grosse Isle yet, bring the ship alongside of a wharf where it could be cleaned. In order to clean the ship they have adopted a plan of placing on a barge, or some sufficient vessel, large chambers in which sulphur dioxide can be generated and rapidly distributed through the ship by means of fans. If that is done thoroughly and the ship stands under sulphur for twenty-four hours, they have found, in New Orleans at all events, that it does disinfect the ship, not only in cases of small-pox but also of yellow fever. That is, I think, an answer to the question.

Dr. Playter—I think we should consider hereafter, as medical practitioners, another aspect of the question. We know there are factors in the causation of all diseases of an infectious nature, and Sir Andrew Clarke has recently brought the question to a fine point in regard to tuberculosis. He said there are necessarily two factors in the causation of tubercles; one the bacillus, and the other the soil on which it grows. It is most desirable that everything should be done through quarantine to prevent the infection reaching this continent, but I think attention should be directed to the other essential more than it has been. Not at all that we should neglect the first, but the infection will escape the best quarantine and the best disinfectant. There will be less danger in the future, but we should prepare for a certain amount of outbreaks on this continent next summer. Our present facilities for instructing the people, I think, are insufficient, and a good deal might be done in the way of enlightening the people in the way of the soil. We all admit that if the digestive canal is in a good condition there will be no infection, and the general functions of the body should be kept in a vigorous condition. It seems to me very clear that unless there is a want of acidity, or rather an alkaline condition of the intestinal canal, the cholera bacillus will not develop there. I think there should always be a thoroughly clean condition of the digestive organs. If there is fermentation going on there, from recent experience with regard to the typhoid bacillus, we know that the disease assumes a more malignant condition than it would otherwise. I would just say briefly that I think practitioners might do a good deal in the way of suggesting means to prevent the development of the disease from infection, and if the infection should reach Canada, as it probably will next year, that by keeping the digestive organs in an acid condition and the system in a clean state, there will be no epidemic of cholera, even if we do have a number of outbreaks, if there is no soil for the disease to spread. I would like to draw the attention of the association to this point, as I think it has been too much neglected.

Dr. F. W. Campbell—I do not think that, with all the goodwill that the Hon. Mr. Carling has, he will undertake to keep the digestive organs of the people of Canada in good order. That is a matter which comes under the cognizance of the provincial authorities. I should like to ask, for information, those who are health officers, if it is not a fact that the statistics give the following—that 70 per cent. of epidemics escape quarantine and 30 per cent. only are successfully kept out, even under the best system of quarantine?

Dr. J. H. Cameron, Toronto—I have listened with great pleasure to the remarks of Dr. Bryce. I might say that quarantine of the old-fashioned kind is an exploded idea. The old-fashioned idea of putting people away for twenty or thirty days until the disease dies out will not meet the idea of life in the nineteenth century. Quarantine such as Dr. Bryce has outlined will be all sufficient. Proof of that exists in the circumstance that although the British ports have been exposed for some time to cholera, very few cases have occurred in the United Kingdom. By the prompt destruction of the germ in the way Dr. Bryce has suggested the spread of cholera will be greatly prevented.

Dr. A. J. **Ahern**, Quebec—The reason why quarantine has not hitherto been effective is that it has not been thorough. Disinfecting the baggage of the immigrants and the ship does not constitute the whole of quarantine, because there is a means by which the disease may come from an infected ship past quarantine, and that means is this. The people that are kept in quarantine must be fed. They are obliged to get their food from the neighboring town, and the parties who bring in that food are not surgeons, because if they were they would be antiseptic surgeons and pay attention to all the little details and be careful. Very frequently from quarantine a passbook is taken and orders are put in the passbook, and these pass-books are in contact with the diseased person. They are sent to the town, the provisions are brought from the town and are handed over to the persons who are sick, and thus the germs may pass quarantine, although quarantine may be effective otherwise. There is another point. The ship arrives in quarantine and the baggage is disinfected and the ship disinfected, and the passengers are put out on shore. Then these passengers are suspects for a time to see if the disease will break out among them. In the meantime another ship arrives, and the first passengers may not have gone. The new passengers are disinfected and put ashore. These may not have the disease, but it may break out on shore among the first lot or amongst the second lot. So there should be a place where the passengers under observation would be completely separated from others, and there would be no chance for their contracting the disease again if it should break out among them. There is another question with regard to immigration. Dr. Bryce has stated that if immigrants were prevented for a year from coming to this country, except from Norway and Sweden and the British ports, we might keep out the cholera, but there is nothing to prevent immigrants coming from infected ports to Liverpool and taking through tickets from Liverpool to this country. A steamer arrived at Quebec yesterday, the "Sardinian"; she came up after being forty-two hours in quarantine. On board the Sardinian was a man coming from an infected port, or at least a port in which there has been recently some cases of cholera. I have a personal knowledge of that, and how many among the six hundred immigrants came from infected ports nobody knows.

Dr. J. W. Milne, Vancouver—I am a health officer in the city of Vancouver. You must discuss not only quarantine of the individual himself, but disinfection in every particular. To illustrate, although I do not wish to condemn anyone at this time, either the Government or its officers, I will show how we were unprepared for small-pox in British Columbia. During the first week of June the "Empress of India" arrived at Vancouver; she is one of the finest ships of the C. P. R. line. She brought over a large number of immigrants, chiefly Chinese and some Japanese and other passengers. A Chinaman was found ill with the disease. He was quarantined at the station, eight or nine miles from Victoria, and the ship was disinfected. Only the Chinamen were detained. The Japanese and other passengers were allowed to go to Vancouver and everywhere. When that vessel left Japan small-pox was epidemic there. Now the Japanese should have been quarantined. The Japanese passengers went out through the country, and we have had small-pox there to a great degree; and to show you that our apparatus at that time was inoperative and not sufficient for the case, in the city of Victoria we had only one case for six weeks after the arrival of the ship, and within ten days after that we had forty cases. You can understand what a panic it caused. Although I have never made it known there, and though I have never asked for a commission to see how the disease came to spread so rapidly, I will show you one point that I believe was the cause of that disease spreading. Within three days there were, I think, six grocers taken down with small-pox. Two or three of these grocers died, so you can understand the feelings of the people on that occasion. I believe the Japanese teas were one mode of infecting the people of the city of Victoria. If we had had the proper apparatus to disinfect the cargo at the time, I do not believe we would have had one-half the number of cases that we had there. Forewarned is forearmed. The Government have since taken steps to have a proper disinfecting apparatus there, which should be, and I hope will be, sufficient. Dr. Byrce has pointed out that at the ports of the East every precaution is being taken. I hope the Government will take the same precautions in the Far West. The fact is, there is a class of immigrants coming to British Columbia, such as Chinamen, a class who are likely to disseminate diseases, a class, to use the remark of my friend behind me, whose alimentary canals cannot be kept in right condition. They will eat rice, and you cannot keep them clean. If we can only check them from coming into the country as soon as any epidemic is made known to us, we will be quite willing, as far as the Chinese and Japanese are concerned, that the immigration should cease at once. That is a point worthy of consideration by the Government of this country, if they find cholera is likely to come in here. I think that, as far as we are concerned in the Far West, we could well do without the Chinese immigrants. I hope the remarks of Dr. Bryce on this matter will be considered, and the Government will take proper steps to procure the right disinfecting machines for the Pacific as well as for the Atlantic coast. We have no conception how soon that disease will break out in China and Japan, and I think the rapid means of transportation that we have will help its spread. I hope the Government will take every means to prevent the disease coming in, not only through the Eastern ports, but also through the ports in the Far West.

Dr. Bergin, Cornwall—I have listened with very great attention to Dr. Bryce's remarks. As far as he has gone, I think the means he proposes for the prevention of cholera coming into this country are means that will be most effective. If only preventive means are to be used, I quite agree that everything would have been done if we acted on the suggestions of Dr. Bryce. But we must go very much further than that. A gentleman behind me touched the very core of the subject. Cholera, when it visited this country in 1832 and 1854, was confined principally to two main lines of travel, the rivers and the lakes and the line of the Grand Trunk Railway, but there is an entirely different condition of affairs now. These two lines of travel form but the minimum of the great lines of travel to-day. We have not only the great C. P. R. in addition, but we have the hundreds of lines that herring-bone this country in connection with the Grand Trunk Railway and the C. P. R., all built since 1854, so that the possibilities of cholera spreading have been magnified many hundredfold since 1854, and therefore the means to be taken to prevent the spread of cholera in this country by the Government, and the responsibility necessarily resting upon the Government, have increased many hundredfold also. Speaking of Grosse Isle, it is looked upon as the quarantining ground—the only quarantine station, in fact, in the Gulf of St. Lawrence—the only station at which we now stop ships coming into this country, and I think we might ask ourselves what has been done and what is being done to prevent cholera coming into this country. Dr. Bryce has told us that there you have a small apparatus constructed upon the best known principle to-day, an apparatus capable of thoroughly and efficiently disinfecting the clothing of the passengers who come to that island upon the ships, but it is quite manifest that if that instrument is to be of any use it must be enlarged many times. We must have more than one of a larger size, should there come any number of people to this country upon these ships. I avoid at this moment discussing the question whether we should prevent immigrants coming into this country at all during next year; but suppose five or six ships with, as they usually have, from six hundred to a thousand passengers, are lying at Grosse Isle to-day, what are you going to do with those vessels? Where will you put them? What means have you of landing the passengers on the island, and what provision has been made for their comfort and protection, and their clothing and provisioning, at that island? It is a question that is not likely to be called much into consideration to-day, but it is a question which we will have to consider very seriously before next spring. You will require to provide protection, in the shape of dwellings or tents, for next spring at Grosse Isle. You will require to see that you have also, after these people have been disinfected, other buildings in which they shall be placed before they are removed from the island, and these buildings should be isolated from the building in which the suspects or the passengers that follow those who have been in it the day before will be placed. You require to thoroughly disinfect those buildings, after the passengers leave them, before you introduce new passengers, and those new passengers must be disinfected before they are put in that building. You must see that the clothing they receive is not infected in any way before it is given them. You must see that when being moved from the island they are not exposed to contact in any way with anyone who may be suspected or whom we have any reason to suspect. You must see that the vessel in which they go is thoroughly disinfected, so that they may carry nothing further with them. When we have provided them with shelter, clothing and food, what provision is made to give them pure, wholesome water at Grosse Isle? Have you any means of providing pure, fresh water in quantity to accommodate five or six thousand passengers at Grosse Isle? If you have not, it is one of the duties that you must perform during the coming winter. Now, I think it is unfair to the Minister, and unfair to the country, that we should conceal anything that we think is absolutety necessary to be done to secure immunity in this country from cholera. Dr. Bryce has pointed out that he is merely outlining the general features of what he thinks necessary to be done at Grosse Isle; for all these things must be done. None of them can we afford to overlook if we would secure the country from cholera. Now, I should like to ask, as Dr. Bryce has lately visited Grosse Isle, what provision has been made for disinfecting the buildings there after the immigrants leave them and before the passengers are introduced into the new buildings? I am asking this in the interests of the Government and in the interests of the country. I am asking this more than all in the interests of the Minister, who, not being a specialist, has asked us to give him the fullest and freest information to-day. I am asking him whether we are provided with the best and most thorough material for disinfecting the ships, whether we have it for disinfecting the cargoes as well as for disinfecting the clothing? I ask what means we have—and Dr. Bryce has incidentally directed attention to it—what means we have of reaching the ship with the necessary material for disinfecting it? I would ask what means we have for removing the passengers safely and comfortably from the ships to the island? I would ask what means we have for thoroughly disinfecting the ships before the passengers are returned to them, or whether it would not be better for the Government to provide such a vessel as Dr. Bryce has spoken of as being in use in Philadelphia, and whether it would nót be, in the emergency, the better means to take for using the apparatus I have mentioned? I know that it has been suggested that a long wharf at Grosse Isle is a necessity. Now, that brings up two questions: Whether the long wharf, if constructed, would be required for many and many a long year to come? Supposing it were in existence to-day, would it be required for a long period? We seldom get through the St. Lawrence any disease that causes general alarm beyond cholera. Since 1848, when we had that unfortunate visitation of typhus fever, I might say we have had nothing except cholera to cause widespread alarm. The estimate, as I understand, for the construction of that wharf is two hundred thousand dollars; but that two hundred thousand dollars, I think, might be devoted very much better to the pusposes of which we have spoken. There are other points on the St. Lawrence where a quarantine as effective as that at Grosse Isle could be found, and where it would not be necessary to construct a wharf of that kind, where there is deep water and plenty of shelter, and where the facilities for landing and transporting the passengers would be better than they are at Grosse Isle. This is a question which I pointed out to the Minister as one to be considered during the coming winter. I am not proposing to pronounce dogmatically upon any of those questions. I am throwing them out as matters which require consideration, and which, when the country finds they are being thoroughly considered and that the Minister is giving to them, and will give to them during the winter, that care and attention which he has given to them during the last two or three months, will go a long way to do away with that dread which has so much to do with the mortality of cholera when it once appears in the community. We all know that if we are in the best of health, and if we have also the fullest courage, we are not likely to succumb to attacks of disease; but if we are overpowered with fear and our vitality has left us, when the dread destroyer comes, destroy us he will, and therefore I think it is desirable that the country should have the fullest assurance, and it is having it every day, that all the scientific bodies in this country are devoting their attention to this question; that we have our health officers all through the country, as you know from what you have heard from Dr. Bryce to-day and from our friend from British Columbia; that we have the very ablest sanitarians of the day at the head of the department, and it gives confidence that the administration of the health department is alive and active, and all that, under God, can be done by human means to prevent the introduction of cholera into this country will be done, and there its mission ends. After that comes the duty of the provincial officers, the duties of which Dr. Playter has spoken, and which we have the best evidence will be fully done by those provincial officers.

Hon. Mr. Carling—I can assure you it gives me very great pleasure indeed to meet the Canadian Medical Association. This discussion shows that you are fully alive to the interests of the country, and prepared to do everything you can to prevent anything like an epidemic of cholera in this great Dominion of ours. I can assure you that the Government is fully alive to the importance of having everything that can be done (as has been said by my friend Dr. Bergin) by the Government of the Dominion to prevent cholera appearing in Canada attended to before next spring. Of course, as you are aware, we have perhaps not taken the precautions heretofore that we are taking now, because we have not been troubled by anything like cholera, and, in fact, other countries have taken perhaps no steps greater than we have. I believe that no quarantine was established at ports in either England, Ireland or Scotland; that patients are taken to the hospital—so I am informed; that they have no disinfecting appliances at Liverpool or the chief towns, cities or seaports, except at the hospitals, which are provided either by the Government or the municipality or locality, and I believe now that the city of Portland, the city of Boston and many other cities of the United States have not provided any more appliances for the prevention of cholera being introduced into the country than we have in Canada. But we are determined, as far as we are concerned, that we will use every effort and introduce every appliance that can be suggested to prevent cholera being brought in at Grosse Isle, or at Victoria, or at Halifax and many other points. Nearly everything that has been spoken of and nearly every suggestion that has been made to-day is now being put into operation. I may say to you that in New Orleans they have steam disinfecting appliances which I believe have been most successful, and I have been informed on good authority that since the appliances at New Orleans have been in operation no cases of yellow fever have passed the city of New Orleans up the Mississippi River. The appliances they have there have been most effective. They have appliances in the city of San Francisco which are equally effective. We have had reports from our quarantine superintendent at Grosse Isle, Dr. Montizambert, recommending certain appliances similar to those at San Francisco and also similar to those at New Orleans and other cities in the United States, and I might say to you that the appliances we propose introducing at Grosse Isle will be similar to those that we have now. We sent to Toronto, and the authorities at the Isolated Hospital there were good enough to let us have for use at Grosse Isle a disinfecting steam apparatus that they had constructed, at the price they paid for it, and they are now having a new one constructed. We are using that to the best advantage for this autumn, but for next spring we have plans and specifications and are receiving offers for the construction of steam disinfectors to be made and placed in position this autumn, so that there will be applicances to disinfect any vessels that come up the St. Lawrence. I believe the largest vessel that comes up the St. Lawrence can be disinfected inside of twelve or fourteen hours with these appliances. I may say to you that this steam disinfecting apparatus at Grosse Isle is very simple, and it was the best we could get. It is only nine or ten feet long by some four feet in diameter, and three men are constantly kept there to use it to the very best advantage and to put through it every article of clothing, luggage and bedding as fast as it can be done. But the appliances that we intend putting there next spring are three large steam disinfectors, each twenty-four feet long and eight feet six inches square. We will have three of these, with steam boilers for each one, and vacuum pumps, and no matter how many vessels come in, with those appliances, we expect to be able to disinfect the whole ship-load inside of twenty-four hours at any rate. That is being done at the present time, and we have given positive orders to the Public Works that those appliances must be in place before December, 1892. Then, in regard to the water, we have now wells which have been deepened and enlarged, and I believe there is a good supply of pure water both at the eastern and the western ends of the island. We are now taking steps to have large condensers, and instead of taking the water from the south side of the island, where it is inclined to be muddy, we intend to pump it from the north side of the island, where there is no sewage or dirt, into a reservoir, from which we can supply any quantity of water for washing, or closets, or baths, or anything of the kind. So I can promise you there will be an abundant supply of water at the quarantine station before the winter sets in. Then, with regard to the buildings, we have large sheds there. Perhaps they were not in the condition they should have been. I fancy it was overlooked through the officers on the island not asking for it, but we have had a staff of carpenters sent down there with instructions to do everything that is required or asked to put the buildings in good condition, furnish them with chairs and tables and cooking stoves, and all the appliances that are really necessary to make the people that are unfortunate enough to be brought there comfortable. All these appliances are being provided at Grosse Isle; and with regard to the deep water wharf, Dr. Montizambert has urged the deep water wharf over and over again, and my own impression is that it should be built, unless there is some serious objection that we have not foreseen; but it has been suggested by some gentlemen that the water in the channel going up to the wharf is not sufficiently deep for a vessel drawing some twenty-five or twenty-six feet of water. That is something that has been mentioned lately, and must be considered if we were going to build a large wharf, which is estimated to cost not so much as Dr. Bergin has stated (I know it has been estimated to cost half a million), but Mr. Coste of the Engineering Department has made an estimate that to extend it into deep water, so that the largest vessel coming up the St. Lawrence would be able to touch at it, the price would not exceed one hundred thousand dollars. We are taking steps to ascertain the depth of the channel to see whether, if a wharf is built, the channel will be of sufficient depth and width to allow the largest vessel coming up the St. Lawrence to go to the wharf. If it is not, we are ascertaining about other places that have sufficient depth of water and whether they are suitable for quarantine; but in the meantime, as we have not the wharf and as we have the whole Dominion at our back, there are plenty of vessels to be procured. The "Druid," a steamer belonging to the Marine Department, has been kindly offered for our service, and it is used at the present time. We have the "Challenger," and if it is necessary to use another vessel, or to have two or three vessels, money shall not stand in the way. We will have all the appliances there that are necessary until we get a wharf; and the question now is whether the wharf will be abandoned or commenced immediately, or other means adopted, or another place selected. But Grosse Isle is a very suitable situation, and I think one of the best we can get. It is about thirty miles below the city of Quebec, and with all the buildings and appliances we have there now, it would be a mistake to change the site if it can be made as we expect it can. Then, with regard to other places, we are taking the same steps at Albert Head, in British Columbia, which is on the Strait of Fuga. We have a quarantine ground there, some ninety acres, I think. We have a building there which was rented some eight or ten years ago. We have applied for and put on board a small vessel a di-oxide blast to be used for disinfecting the baggage. In addition to that we will have two large steam disinfectors, similar to those to be placed at Grosse Isle, placed at Albert Head during the winter, and we are bound to make the quarantine at Vancouver, which is the port for the vessels coming from China and Japan, and Honolulu, and San Francisco and different places in the United States—we are bound, without any delay or without any regard to cost (we are not going to throw money away, but the Government gives me full power to complete those stations in a thorough and effectual way), to meet the wishes of the people of the country. No stone will be left unturned to make every quarantine station as complete as it is in any other country in the world, not excepting the United States. Our buildings at Halifax had been used for a barracks. The troops were withdrawn some years ago, and since then they have not been needed, but now we do need them and we are putting the buildings in thorough repair. We are urging the Public Works Department, and they have instructed their officers at Halifax, and Chatham, and St. John, N.B., and other points to put the buildings in repair, and the proper appliances are being got ready to put them in order during the present month, so that should cholera happen—though I hope it will not—to be brought to Canada next spring we will be prepared to meet it at all outlying ports, east and west. In addition to those steam disinfectors we are making smaller ones. We may not require large ones at all the different ports, but we think at Grosse Isle and British Columbia they are really necessary, and perhaps at St. John, though there is no great number of immigrants coming in there, but we will not require as large a steam disinfector as at Grosse Isle at Pictou, nor at Charlottetown, P.E.I., nor at Chatham, N.B. All those different points are being looked into at the present time, with a view of having them put in a thorough condition by next spring, and there is no hesitation on the part of the Government to provide means to put them in proper condition. They have given full power and authority to spend whatever is necessary to put them in the condition they should be in. I do not think I have anything more to say to you at the present time. I shall only be too glad to answer any questions that may be put to me. As you will see, we have issued a proclamation to quarantine our inland ports along the frontier. Our good friends, the Americans, a short time ago talked of calling out fifty thousand soldiers to guard the frontier against cholera, which they expected would be introduced from the great Dominion of Canada. I think if there is to be any calling out of soldiers, we will have to call them out in this country to prevent cholera being brought into Canada from the United States. We have taken, and are taking, all the precautions that we can. A proclamation has just been issued to all our Custom House officers along the frontier appointing them quarantine officials, with authority to call in medical aid at every one of these ports when required, and to do all they can to prevent cholera coming into Canada. What has been done in the maritime ports has been done at the inland ports, and not only in Ontario and Quebec but all along the lines from the Atlantic to the Pacific, wherever railways come in and wherever there are Custom House officers, and we have a good many all the way from Victoria in the west to Sydney in the east, we are taking suggestions to the Department as to the proper means of carrying out the idea which I have just been endeavoring to express. It would be well to allow Dr. Cameron to ask for this committee. However, we might express an opinion by carrying this motion—"That in the opinion of this meeting the excreta from the dying and the clothing of the dead and dying and the bodies of the dead should all be cremated in the most efficient manner that is possible, but with the least possible delay."

Dr. J. A. Mullin—I think the committee should deal with the question as a whole.

Dr. **Cameron** moved that a committee be formed for the purpose of drawing up resolutions embodying the suggestions of this meeting on the subject.

The motion was agreed to.

Dr. Henderson, Ottawa—In conversation with Prof. Webster of Virginia on the subject of cholera, he asked me to mention to the Association that during the late epidemic of cholera in the United States he made inquiry as to the effect of occupation on the disease. He wanted a pointer as to prevention. He found that the mechanics employed in workshops of copper almost entirely escaped the disease. He thought that this fact might be of value and wished it brought before the Association. His suggestion was that vaporized copper might be used as protection. If the vapor of copper in workshops prevented the comma bacillus from thriving, why should not the same vapor be used for the purpose of protection against cholera?

(*To be continued.*)

THE

Montreal Medical Journal.

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THE CANADIAN MEDICAL ASSOCIATION MEETING.

The twenty-fifth annual meeting of the Canadian Medical Association was held in the Parliament Buildings, at Ottawa, on September 21st, 22nd and 23rd, Dr. J. L. Bray of Chatham, the President, occupying the chair. In all respects it was a most successful gathering. In point of numbers it was nearly equal to the meeting held in Montreal last year, when upwards of one hundred and fifty members were present. Montreal, Toronto, Hamilton and Kingston were well represented. An unusually large contingent of the profession from the Ottawa valley were present.

The papers read were of more than ordinary merit, the discussion in nearly every instance being well sustained. During the course of the next few months we intend to publish the leading papers together with the discussion held.

During the first day a discussion of more than ordinary interest was held on cholera. The Hon. Mr. Carling, the Minister of Agriculture, was fortunately present at this session, and partly as result there has been an awakening among the federal authorities, and we are now promised for the future quarantine methods not inferior to those of other civilized countries. Had no other result been attained than the awakening of the Ottawa Government to its duty in the matter of public health, the meeting would have been a great success.

On the evening of the 21st of September the profession entertained the visiting members to a conversazione at the Russell House. This proved a very enjoyable affair.

On the evening of the 22nd a public dinner was participated in by over one hundred of the members. Sir James Grant, who occupied the chair, was more than usually eloquent on this occasion.

The presence of Dr. McLean of Detroit and Dr. Bulkley of New York added much to the interest and profit of the meeting.

Dr. Bray is to be congratulated on the able and pleasant manner in which he presided at the various sittings. The efficient secretary, Dr. Birkett, pleased everybody. The great success of the meeting is owing to its efficient executive officers and to the energy and progressiveness of the members of the medical profession residing in the city of Ottawa and immediate vicinity.

THE CHAIR OF PATHOLOGY IN McGILL UNIVERSITY.

We are greatly pleased to be able to announce that a full chair of Pathology has been instituted in McGill University, and that J. G. Adami, M.A., M.B., has been appointed professor of this subject. Dr. Adami has for some time acted as Demonstrator of Pathology in Cambridge University. He is recognized as one of the leading younger English pathologists. McGill University is to be congratulated in having secured the services of a man so fully competent to fill about the most important chair connected with the Medical Faculty.

Medical Items.

A FATAL CURIOSITY.—A weaver in Accrington, England, put a turpentine stupe over his abdomen for the relief of a severe colic. It did not seem to burn as much as it ought, and he struck a match to see what was the reason. The match ignited the turpentine and the man was burned to death.

A DENSE POPULATION.—There is a block in New York city, bounded by Ridge and Pitt, Houston and Stanton streets, in which 2,985 people live. This is at the rate of a million people to the square mile, and this block is probably unsurpassed for density of population by any other block in the world.

THE

MONTREAL MEDICAL JOURNAL.

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Original Communications.

ADDRESS TO THE MEDICAL STUDENTS OF McGILL UNIVERSITY,

AT THE OPENING OF THE SESSION OF 1892-93, OCT. 3RD, 1892.

BY H. P. WRIGHT, M.D., OTTAWA.

When asked by the Faculty of my old University to formally open the session of '92 and '93, I hesitated and considered seriously before replying. Like other busy general practitioners, I knew I could not be certain of a quiet hour, at any time in the twenty-four, to devote to so novel and important a task, and the more I thought of my audience the less willing I became. On the other hand, however, it brought me back to my college days, to my old friends and associates, my old teachers, to the old benches, and to the old methods. Of all I thought with affection, and I felt honoured and pleased to be asked to come back after so many years. I felt more strongly than ever that the Alma Mater has always her eye upon her sons ; that she watches their progress through life, and now and then, like a loving and prudent mother, gives some especial encouragement, sometimes in one way and sometimes in another, as a demonstration of the universal interest she takes in all. With these feelings such an invitation was almost a command ; so that in a spirit of obedience, with a good deal of pride and, I fear, very little charity towards the class of '92, I promised to come here to-day to say a few words of advice and encouragement before you settle down to the hard work of the session.

It is just twenty-five years since I came to McGill,—a boy full of hope and full of fear, and if I could lay claim to any virtues it was to an enthusiastic interest in my work and an admiration of my teachers. I can see before me now that worthy old Scotchman, William Fraser, lecturing on the Institutes of Medicine, and if he did *commoonicate* and talk to us of guiăcum he taught us Physiology to the best of his ability, and according to the light of that time; and Scott, whose handsome presence and rich voice made up, to a certain extent, for the rather strictly didactic method he observed in teaching Anatomy. How well I remember his perennial joke about the foramen magnum, and the equally familiar commentary on the thickness of the washer-woman's skull who tried to make a living by washing for medical students. Then the eloquent, detailed, somewhat lengthy and awe-inspiring lectures on Materia Medica, by my much respected namesake, can never be forgotten by any student of that period, when more time was devoted to this branch than to any other three.

I will complete this little sketch of the primary men by an allusion to the teacher in Chemistry. Trough his experiments sometimes failed at the critical moment, his prompt and lucid explanation satisfied us the fault was not in him. His lectures were earnest and ample, his manner genial and sympathetic. He was known as the students' special friend (an honour I dare-say he sometimes regretted). He is to-day, gentlemen, your Dean, and, I have no doubt, occupies the same place in your hearts as he did in ours a quarter of a century ago.

I might dwell a long time over these pleasant recollections, but I must pass on, only mentioning the [illegible] names of Campbell, Fenwick, Howard and [illegible]—[illegible] good men and true, faithful to McGill at a time [illegible] [illegible] servants, and faithful to the [illegible] [illegible] depended [illegible]

Great changes have indeed been [illegible] Year by year, as [illegible] a gradual [illegible] and [illegible] [illegible] College grounds, and the only familiar intimate friend to be seen is the venerable rectangular chair, which, at different times, afforded some sort of rest to every professor and teacher in the medical school from the time of Holmes to the present day. It reminds me of the old coronation chair in Westminster which covers the same stone on which Jacob is supposed to have rested his weary head, and on which it was necessary the ancient kings of Scotland and, since the Union, the monarchs of Great Britain should be crowned. So, it seems to me, must the teachers in medicine of McGill occupy this respected chair before they can properly assume their true professional dignity and responsibitity.

We are thankful to have still with us in the enjoyment of health, well merited honours and, I hope, ease, Fenwick, Craik, MacCallum and Wright, and I trust they may long continue to be the living links between the present and the past. While the honoured names of Hall, Sutherland, Campbell and Howard are indelibly written on your standard among the heroes of bygone days.

Though methods have changed and greatly improved, we must remember, times have changed. The science of medicine has pushed on with giant strides. Didactic teaching has given way largely to practical instruction, demonstration and experiment. I will illustrate this by alluding to two of your primary subjects, and they are in keeping with all the others. How is Physiology taught now ? By an earnest scientific student, already an author of good repute. His knowledge and his teachings are not limited to the *human* body, but cover the broad fields of comparative physiology, in which there are still so many undiscovered mines of treasure to be entered only by the faithful workman. How practically he teaches you all that is known up to the present day of the laws that govern man in a state of health ; and need I remind you of the great importance of understanding him in health in order that you may appreciate the altered conditions constituting disease. You may feel that this subject is so extensive already that nothing remains, but if you enquire into the true meaning of such terms as *nerve force*, *secretion*, *absorption*, *elimination*, and a host of others, you will find there is plenty of room for enquiry and investigation.

And how is the sister science Anatomy taught you in these days? On exactly the same lines and in the same spirit. Not many months ago, while in Montreal for a few hours, my old friend and fellow-student,, to whom I allude with a feeling of pride and admiration, your Professor of Anatomy, brought me through his museum and dissecting-rooms, and when I examined his sections, dissections, specimens of anomalies, and his extensive comparative anatomical collection, I felt like enrolling my name in his class list, to learn anew the things that were, we thought, perfect, but now, under the new method, are seen to have been full of imperfections.

The same may be said of Chemistry and Materia Medica. All are taught practically and in keeping with the progress that is being made. Not that the teachers are more earnest or better men than they were twenty-five years ago, but they have greater opportunitles, and, to their credit be it said, they have taken advantage of them. They are still further unfurling the banner of our Alma Mater. We watch them with pleasure, and to them we feel is largely due the proud position our school holds to-day among the scientific institutions of the world.

In everything has the advance of time been marked by great progress, but nowhere so great as in your hospitals. The old ill-ventilated and over-heated Montreal General has grown into an airy, bright and thoroughly equipped establishment; while the Royal Victoria—thanks to the munificence of two great public-spirited and charitable Canadians—has come into existence. Too much cannot be said of these truly great men—public benefactors in every sense; for, not only are they relieving suffering by sheltering the sick poor, but, by affording opportunities for increasing scientific knowledge, they are benefitting the human race. In this connection I wish any words of mine could reach the ears of the benevolent wealthy. I would tell them we have now enough hospitals. Do something for the hospital inmates and for the world at large. They can do this by the promotion of science, by endowing special chairs and establishing scholarships: on the one hand to allow the teacher to devote his whole time to his work, and on the other to enable the poor and intelligent student to obtain the envied degree.

Could these wants be made known to the public, and the reasons clearly set forth, showing the true benevolence of such giving, I believe in a very short time means would be forthcoming. With the increasing subjects for study, I can see in the near future the necessity for an extension of time. What could have been accomplished by an average student in my day, and since then, in four years, will soon require five, and then the aspirant with limited means, however diligent and intelligent, will have to seek some other and less congenial field of labour. Science will be thereby a loser, and whatever is a loss to science is a loss to the world. Two or three liberal scholarships are much needed in this school for the foregoing reasons, and the men who establish them will be doing as much for their fellow-creatures as those who build large hospitals or stately universities. In this connection I cannot, because my heart is so full of it, refrain from alluding to a subject I have spoken of before, in public, on several occasions. The alumni of this University, from the east to the west and from the north to the southmost part of this continent, are anxious to do something to immortalize the memory of a man who, from his boyhood till his death, as student, demonstrator, teacher and Dean of the Faculty of Medicine, performed every duty with a zealous singleness of purpose and success that characterized the individual and made Robert Palmer Howard respected and beloved. Those of us who enjoyed his personal friendship know that some living memorial constantly furthering the interests of McGill and her students would alone afford him pleasure in its contemplation.

Now I know full well that the endowment of a Chair means the subscription of, at least, $50,000, and that such a sum cannot readily be obtained from a class of men who, as a rule, have little more than they actually need. But McGill has friends. The Chair of Pathology ought to be endowed. Let us at once make a nucleus. Let us draw the attention of the large-hearted public to the philanthropy of such a scheme. Let it be known as the "Howard Memorial Endowment," and I will venture to say the appeal will not be in vain. An important chair will be endowed, and an honour done to the memory of a great and good man.

To return to the line of thought I was pursuing. You have your hospitals, museums and laboratories equipped with the most modern appliances and officered with earnest and energetic teachers. All this your Alma Mater has done for you. What are you prepared to do for her ? She has done more for you than you can ever hope to do for her, and all she asks in return is loyalty, which means devotion, an earnest desire to acquire knowledge, a wholesome spirit of investigation and thoughtful observation,—not only during your college career, but in after life when you are busy practitioners and yet students of medicine. As I have set myself the task of giving you advice, of, so to speak, preaching a sort of professional sermon, which, by the way, you never get except in an occasional introductory address, I will dwell for a short time on this, the most important admonition medical students can receive—the habit of observation in scientific study. Accurate observation should be your watchword. To the younger students who are trying to familiarize themselves with anatomy, physiology and chemistry, I would say study closely and observe. You are not only storing away important facts, but you are training your minds for future usefulness. To the more advanced students I would urge still closer observation. Take notes of all you see rather than of what you hear. Collect FACTS, and if they are sufficiently ample, conclusions are readily arrived at. It is no easy matter to observe accurately ; even the evidence of the senses must be questioned. Self cross-examination must be steady and severe. Sir James Paget has said that by accurate observation we must mean, not the mere exercise of the senses, not the mere seeing, or hearing or touching of a thing, with some levity of thinking about it,—we must not mean even the keenest use of the eye cultivated in microscopic work, or of the ear hearing sounds that to the uneducated sense would be inaudible, or the use of the fingers with the most refined touch. There must be, besides an habitual constant watchfulness, the taking notice of all the conditions in which objects or events are found; their concurrence, their sequences, their seeming mutual relations, all their variations. To do this accurately and always is very difficult, and needs careful self training, self suspicion and self discipline. You must not be too willing to believe what you see. You must have more evidence. Still more, you must not fall into the too common habit of believing what you wish and then seeing what you believe. To observe accurately you need a powerful stimulus, and that stimulus is—the will. Now is the most important time to cultivate it, for by long use it becomes more or less automatic, like piano playing or typewriting, and in order that it may be of use to you as a really good lever in accurate observation in after life, you must see to the early habit. " Such as the student is such will be the practitioner." You know the old and oft repeated story told of Abernethy, who, when he entered his lecture-room at the beginning of a certain session, looked up and addressing the students said reverently, " Good God, what will become of you all." A celebrated teacher some years after set to work to answer this question by a purely statistical method, and found that the good practitioners had been good students, and that the earnest scientific students had become the scientific and successful practitioners. That close student Carlyle says the latest gospel in the world is, know thy work and do it.

Of those of you who are approaching the end of your college career, I would ask, as you value your own happiness, to continue this method of accurate observation when you go out into practice. In city, town or country, be scientific students. All have equal advantages. Take notes of all important or particular cases, observe accurately, collect facts, and subject yourselves to rigid cross-examination, and your reward will be certain, not only as regards success, but far greater, you will have the happiness of self satisfaction.

I hear some one say, how can this be done in country practice ? You must remember Jenner was a country practitioner, and so was Koch, and yet they made the most important discoveries the scientific world has known. A similar honour may rest with any of you. There is plenty of room—the unploughed fields of medical science are far greater in extent than the cultivated ones. What one man did any of you may do. Make it a rule " never to be satisfied you know enough about anything so long as anything about it remains unknown." Some one, I forget who, advised every practitioner to try and erect a monument to himself in the world of science. If he could not do that, to carry a hod of brick to assist in building one for some one else, and if he could not do that, to shout and cheer the others on their way.

Such, briefly, is the meaning of loyalty to your Alma Mater. Make that loyalty your first consideration, and next be true to your bodily selves. I have lived long enough to see many a man fail at the very beginning of his bread-winning life for the want of health. Having neglected all hygienic laws during his college career, his body is no longer a temple of strength, his digestive functions are impaired, his perceptions are dulled, his ambition gone, and, without self-reliance or courage, he succumbs. Without health, all the knowledge he acquires is of little or no use. It is impossible to have a vigorous and always reliable mind in a weak and unhealthy body. Without health you cannot enjoy work. You cannot enjoy life. It is our particular mission to secure health in, and procure it for, others, and yet how constantly we jeopardize it in our own cases. Not that I would, for a moment, imply that any one of you should shrink from danger when duty calls. What I allude to is the ill-health so often engendered by studying and sleeping in ill-ventilated rooms, by the avoidance of regular systematic exercise and the cultivation of bad habits. I would advise you all to give this matter serious consideration. In other employments, if health fails, it may be recovered, in many cases by care and exercise ; but total cessation from mental labour in a student for several months often blasts his whole career. You may be poor, but, by perseverence and faithful work, you may and will overcome this ; but if your health is gone, you are at once cut off from doing anything by way of study. He may start off with good resolutions as to exercise ; and as the ardent and enthusiastic student gets more and more interested in his work, and, as he sees before him the great extent of the subjects he has to master, feeling strong in the buoyancy and elasticity of youth, and knowing that his success rests solely with himself, he applies himself to his tasks—neglects all hygienic laws, and for a time succeeds—probably passes brilliant examinations and secures many prizes, but to find his health gone, or so seriously impaired that he is of no further use. One more example of failure, not because he studied too intensely, but because he neglected the care of his body. Even this, however, is an extreme picture, for, as a rule, the student who thus neglects his duty to himself fails early, his mind ceases to be receptive, his memory and his reason are not his able assistants, and he finds himself over anxious, weary and unsuccessful. I know the temptations are strong to devote every minute of your time to study ; that you do not feel the necessity for exercise, and that it may not be interesting to you, but remember what Fielding says: "Let this be your constant maxim, that no man can be good enough to neglect the rules of prudence." I know from personal experience how strong these reasons are, but I entreat you not to be deceived by them. The arguments are fallacious in every respect. Be assured that regular, systematic and moderate daily exercise is not a waste of time. It will enable you to do more useful work now, as students ; you will retain better what you learn ; you will pass better examinations, and you will make better scientists and better doctors. History tells us that Julius Cæsar and Cicero were delicate youths, and, were it not for the systematic exercise they so persistently took, they never could have so adorned their respective professions. Then consider the ancient Greeks. Physical education was with them as essential as mental culture. Were there ever such men of muscle and brain ! To come to our own time. Look at the English school-boy or college man ! How often is the stroke oar the senior wrangler. And what makes them young when we are getting old. Perhaps partly the climate and their habits, but chiefly their early physical education. Look there through the ranks of our own profession. Foremost you will find men old in years, but with vigorous bodies and elastic minds, teaching and working with enjoyment. Our winter season is such as to make out-door exercise inconvenient to busy students, and for that reason it occurs to me that it would be wise on the part of the University authorities to fit up a gymnasium in the Medical College, so that a spare ten minutes might be profitably employed at any time ; and, in addition to this, I think every student ought to devote an hour at least every day to some chosen method of developing his muscles and maintaining his health. Dr. R. T. Mackenzie's excellent report points out the good to be gained by this means more clearly and concisely than I have yet seen it. He gives the figures, showing that from the first up to the final years in Amherst University there was a decrease of sickness (during a period of twenty-five years) of five per cent. ; where, under an able professor, each student is put, after careful examination, only to the exercise best suited to him, this careful observation saving many a young man from injury, whose zeal was greater than his ability. He also quotes from the president of the Bowdoin College, who found that, in considering the relationship between scholastic and athletic ability, third class ability was the most frequent, first class ability in both next, and, least frequent of all, was that of first class scholastic and third class athletic ability. He does not maintain that these stand to each other as cause and effect, but that a scholar's mind and body stand in the closest connection. In looking over the standing of the members of McGill's football team from '80 to '86, out of a total of 105 men, 21 were medalists at college, 20 took first rank standing, and 16 were in second rank honours.

We must not let our hale hearty students, coming, many of them, from pure country air, full of vigour physically and intellectually, degenerate into unhealthy ones ; and those who are not so blessed, it is surely our duty to help. It certainly should be our endeavour to send *all* away strong in mind and strong in body, prepared to work and make ways for themselves.

To my mind, it is a great misfortune that medical students have so little to do with their teachers. The daily lecture, the weekly grind, the hospital clinic and the annual examination,—there it ends. The constant effect of example, the pleasant associations, and the mature guidance of an instructor would mould many a character into a better groove, and would save a greater number still from the mental and physical ill health so often the outcome of loss of rest and want of exercise. That this is not the case is in no way the fault of your teachers. If a few of the so-called strictly scientific chairs were endowed, some of the professors, free from the cares of practice and the necessities of its pecuniary rewards, might well devote a portion of their time to the closer society of their students. Then you should have, not only teachers and instructors, but intimate friends, to whom you could go for advice at any moment, and on any subject. Let us endeavour, as far as in our power lies, to so guide public opinion that the wealthy and beneficent may be led to endow our chairs for the benefit of science and her students, and I trust the University authorities may soon find it to be within their sphere of duty to devote more time and attention to the preservation of the health of those who are morally entrusted to their keeping.

There is one more topic to which I shall allude, and these remarks I shall address chiefly to the more advanced students who are so soon to take on the responsibilities of citizens and doctors. I propose to speak to you for a short time of your duty towards the State. This is a matter to which too little thought is given by students and practitioners. We all are bound to do our best for the State ; and what does this mean ? It means the protection of the public against epidemic and endemic disease, and the preservation of health by teaching the laws governing it. The former is done chiefly through the medical officers of health and the health boards, but the health officer should be the useful ally of the practitioner, on whose knowledge and discernment in individual cases he must always depend. The practitioner will necessarily be the first to discern and recognise preventable disease, and the function of the health officer will be to support and complete his action. Every physician is, by virtue of his position and relationship to the State, a health officer. You must remember that as soon as you commence the practice of your profession you must earnestly give your attention to the prevention as well as to the cure of disease, and with that grand object in view persevere in your studies *now*. The principles of ventilation and drainage, including the effects of noxious gases and their sources, you must NOW consider, and apply your growing knowledge to imaginary cases, such as you will surely meet with in the near future. The responsibilities of the medical man of to-day are greater than were those of his predecessors, because of the progress of science and his greater opportunities. Collectively the profession has afforded the Government the necessary knowledge to frame laws for the prevention of disease.

At a time like this, when cholera is threatening us on every side, the necessity for the direction of your thoughts in the groove I have just mentioned is very evident. In order that you may the more fully appreciate the progress that has been made in the past few years in this direction, and how much more will properly be expected of you, I will briefly review what has been done.

The first start really made in the revolution that was going to bring about a true reform in contending with disease,—the the first break from the tyranny of custom and ancient tradition and the first appeal to man's reason, was the discovery in 1865, by Villemin, of the inoculatibility of tubercle. The uninteresting and cold study of morbid anatomy was giving way to the progressive influence of minute pathology. This brilliant discovery of Villemin's, so suggestive of the presence of some active living organism, was followed in a few years (1872)—thanks to the labour of that indefatigable worker, Koch—by the demonstration of a bacillus peculiar to and always present in tubercle. Consumption was now recognized for the first time as a communicable, and therefore preventable, disease. Next came the discovery of a microbe peculiar to relapsing fever, and then followed the glorious discoveries of Pasteur, who found that the virus of chicken cholera could be attenuated to any degree, and that its inoculation formed a vaccine preventing the original malady. Then came the discovery of the bacillus of anthrax. Next was the establishment of comparative pathology as a science by Pasteur, and, finally, his successful dealing with hydrophobia as far as its prophylaxis is concerned, though the special virus has not been isolated. On and on, till now, when Haskin's method of vaccination with attenuated virus of cholera bacillus promises well for the future.

Such is the progress of science and so it will move on. Experiment and comparison have vastly changed our notions of disease, by substituting actual demonstration of morbid processes for vague speculations. I might dwell indefinitely on this interesting topic, but my object is not to address you on bacteriology, but to point out to you the great importance of its study now while you have the opportunity, so that you may pursue it afterwards with the fixed determination to familiarize yourselves with what is already known and to aid you in the diagnosis of many obscure diseases. Further than that, you must work with the hope of accomplishing something original. You will all have plenty of opportunities in a short time, for I don't care into what communities you go, your seniors will gladly furnish you with pathological specimens, if you show yourselves to be competent and in earnest, and there is no way in which you will so readily and substantially gain their good-will and support. Each one of you may assist in the definition of the cause of any given contagious disease, and thus, in many cases, will you help to control its spread. It is this duty that has given sanitation the position it now holds. The State recognises it and waits for it, and though slow to move, now willingly sees its duty towards the people by organizing bodies known as boards of health, and by adopting other means to assist in the prevention of disease. No longer are epidemics surrounded by a halo of superstitious awe, though dreaded they must be till our knowledge is complete enough to stay their progress. Before, there was nothing definite to aim at; now, bacteriological investigation demonstrates a special causative bacillus, whose habits and mode of growth are known, or will be known. The filth diseases, as cholera and typhoid fever, are recognised as such, and we know that the unclean only will suffer. So the light of science is every day getting us further and further from the dark shades of ignorance. And to whom is all this due ? To the votaries of our own beloved profession ! To single-minded, noble men, who, heedless of everything but the good they may do to their fellows, work on to achieve further successes. You have the privilege of belonging to this profession ; see that you do your duty by it. I would advise you, as soon as you enter practice, to get into systematic habits, and one is, to report all cases of contagious disease to the health officer of your district, so that he may fulfil his office, " to protect the community against an epidemic of infectious disease," and that duty obviously cannot be carried out unless he is informed betimes of its presence. This is a duty we are all too neglectful of, and it would be well for us to feel the importance of even one single act of carelessness,—it lessens the value of statistical returns; it shows a certain indifference towards assisting the State in preventing the spread of disease, and a corresponding carelessness of the welfare of our fellow-creatures.

I have now, very imperfectly, drawn your attention to three important considerations—your duty towards your Alma Mater, towards yourselves, and towards the State—and if any apology be necessary, it is to be found in the fact that no one else, as I said before, has an opportunity of speaking to you on these topics. If I have been the means in any way of impressing that grand word *duty* more deeply on your minds, I shall feel more than recompensed. If you keep it steadily before you you will surely be rewarded. Some one way and some another; some by honours of the State, some by the esteem and regard of his patients, some by professional chairs and university honours, but all by the most envied of econiums, the reward of a good conscience.

A few words about medical politics, if I may use the word, and I will release you. Take an active interest in your Undergraduates' Society—enter into the discussions—cultivate the art of expressing yourselves well in public; it will be a source of great good and pleasure to you in after life. Later on, join at least one good medical society near by, and do your very best to make it a success by your attendance and your pathological, clinical and literary contributions. If in this country, belong to the Canadian Medical Association, and help to make it more and more national. Such an association ought to be a great lever for good in the country, for it ought to be behind all sanitary legislation to guide it and further it. It ought to be also the great centre of all the best scientific papers and discussions. It brings you into agreeable contact with your old teachers and fellow-students, now all co-workers in a common field. Join a Graduate's Society, and if there is not one near you, if possible organise one. It will keep you in touch with the good old Alma Mater, and it will, by extending her influence, support and strengthen her. And lastly, in your treatment of each other as students and practitioners, I will use the very words of the Governor of Kentucky in an address to the students of the Kentucky Medical College in 1890: " Be gentlemen." By this

I do not mean you should simply cultivate the graces and practice the ordinary amenities of courteous intercourse common to polite society, but that you should at all times and under all circumstances illustrate the heaven-inspired virtues of honest, earnest, noble Christian men. That you should spurn with indignant scorn the low, mean vices of envy, malice and evil speaking, and never suffer yourselves to be betrayed into anything that can degrade your manhood or cast the slightest stain upon the bright escutcheon of your honourable profession. Above all things, let your demeanour towards your professional brethren be candid, manly and just, and your deportment to your patients kind, courteous and conscientious.

> Self reverence, self knowledge, self control,
> These three alone lead life to sovereign power;
> And because right is right, to follow right
> Were wisdom in the scorn of consequence."

THE DEPENDENCE OF ABNORMAL EYE CONDITIONS UPON UTERINE DISEASES.

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We are induced to lay before the profession a few practical data which will shew how closely related certain conditions of the eye, and perhaps of the nose and throat, are to diseased conditions of the sexual system in women. When we consider how seriously the whole general health of women is affected by slight retrograde change in the sexual organs, we can easily understand how the organs of sight will participate in the general enfeeblement established. It is this participation which is the real cause of the distressing ocular conditions we so often see in young women who have for their occupation teaching or some other such laborious work. In the majority of instances the ages of these patients range from 17 to 30, and a large number of them are young girls budding into womanhood. And as it is considered by the sex generally that every woman suffers from head and back ache as a normal condition from the time she matures until the menopause, little attention is paid to such symptoms. When, however, her anxiety becomes awakened by distress or serious discomfort in the use of the eyes, the oculist is immediately consulted. He often fails to find sufficient cause for the eye trouble after a careful investigation of all the ocular functions. He then directs his attention to reflex disturbances emanating from other organs. Thus it happens that a considerable portion of these cases are referred to the gynæcologist, but to establish and demonstrate a direct communication of morbidity between the pelvic organs and those of special sense would be a somewhat difficult task. Nevertheless, with the aid of clinical observation, it can, we believe, be approximately done, and is in every way deserving of our most serious thought. Physiologists and Neurologists can give us very little aid in the matter. They tell us that the organs in question are presided over by the spinal cord, the nerve force of which is controlled or inhibited by the brain. Congestion of the spinal cord may and does produce congestion of the pelvic organs and increased glandular activity. But here our chain is broken in regard to making connection with the trouble located in the organs of special sense. We are not as yet in the position to trace the path of morbid influence so widely distributed We have therefore to a great extent to fall back upon the associated condition as a hystero-neurosis, and whilst we know that patients afflicted with chronic pelvic disease usually complain of asthenopia or impairment of the ocular functions, the direct relationship of these conditions to each other is by no means well established.

Although a large proportion of asthenopes may be relieved more or less completely by correcting [illegible] of refraction, [illegible] accommodation [illegible] there remains [illegible] conditions of other parts or organs, but finding expression in visual disturbances of various kinds, more particularly in the assemblage of symptoms commonly classed as asthenopia. A conjunctivitis which resists all treatment but suddenly subsides after the removal of a diseased tooth, or the correction of some abnormality in the nose, or vault of pharynx, is obviously an eye disease of reflex origin. Such an event happening occasionally might justly be regarded a coincidence, but since hundreds of these cases are on record the existence of reflex conjunctivitis is no longer a matter of conjecture.

When pronounced asthenopic symptoms without local signs of disease are relieved in the same same way, the reflex nature of the asthenopia is equally obvious, That asthenopia frequently originates from faulty conditions in the nasal passages will be conceded by most opthalmologists of the present day.

It is not our purpose to discuss, or even to mention all the morbid conditions which give rise to reflex asthenopia.

In all probability opthalmologists still have much to learn in this direction, and in order to learn they must enjoy the intelligent co-operation of other workers in the wide field of medical research.

Among these the gynecologists certainly have to deal with many cases that first are led to seek relief on account of their visual troubles.

Diseased states of the genital organs have long been known to bear a certain relation to various functional and organic diseases of the eyes.

The admirable essay on the relation between diseases of the genital organs and the organs of vision by Förster, in the "Handbuch der Gesammten Augenheilkunde" of Gräfe & Sæmisch is a classical contribution to this subject, and though often referred to by writers in other languages has, we believe, never been translated into English. We therefore insert a translation of this valuable article as far as it refers directly to the subject we are now discussing.

"The labours of A. Von Gräfe and Donders have thrown so much light upon the group of cases hitherto included in the chapter on hebetudo visus or kopiopia, that only a small contingent remains for further investigation. Among these last, a considerable number may be set down as belonging to a class in which the visual disturbances are due to anatomical changes in the cellular tissue around the uterus (parametrium), well-known to be so richly supplied with nerves, and secondarily to changes in the uterus itself. In these the visual disturbances are to be regarded as hyperæsthesiæ of reflex origin involving the 5th and optic nerves, and the group of symptoms they present may be designated Kopiopia Hysterica.

The description these patients give of their eye troubles is very similar to the complaints of those who suffer from muscular or from accommodative asthenopia. In some particulars, however, there is an important difference.

In Kopiopia Hysterica the chief complaint is of painful sensations of the most varied description, whilst in Muscular or Accommodative Asthenopia the most prominent symptom is indistinctness of vision.

In the former the painful sensations occur around the eyeball, on the top of the eye, or in the eyeball itself, or they may be behind the eye or more rarely in the malar bone, bridge of the nose, or in the upper jaw. These pains are variously described as drawing or stretching, dull weight, or more rarely as burning sensations.

Very often there is a feeling of soreness over the eyeball or burning or pricking sensations on the surface of the eyeball or at the edges of the eyelid, sometimes there is a painful heaviness of the eyes or a feeling as if a foreign body or an eyelash were in the conjunctival sac.

These sensations are often increased by work, reading, sewing, etc., and also by the bright light; they come on, however, quite independently of an accommodative effort and often last for many hours or for a whole day with some variation in their intensity. They are furthermore apt to be increased by anything which causes physical or mental depression such as bodily fatigue, prolonged or loud conversation, anger or grief. They are diminished by rest, sleep, pleasant associations, travel, etc.

The pain has not the typical character of supra-orbital neuralgia in which there are intervals of freedom from pain with daily or more or less regular exacerbations.

In Kopiopia hysterica too, painful points are seldom present. The pains of this reflex hyperæsthesia are also entirely different from those of the so-called ciliary neurosis, such as occur in corneal ulcers, iritis and glaucomatous affections, in all of which the pain resembles that of supra-neuralgia.

In the reflex affection both sides of the head are nearly always affected. The pain is of longer duration, irritating and annoying rather than intense, and never worse at night, whilst that of a ciliary neurosis is altogether more severe with boring sensations in the bony structures, often the entire side of the head is affected and there are nocturnal exacerbations with remissions during the daytime.

In the reflex affection these pains are often described as terrible, but the patient never groans or becomes indifferent to all surroundings. There is no injection of the conjunctiva, no swelling of the lids and no lachrymation, and nothing to account for the severity of the pain, signs which are often present in typical forms of trigeminal neuralgia. There is no evidence of heroic efforts to suppress manifestations of pain among a class of patients who are peculiarly wanting in self control.

An examination of the eyes reveals either nothing at all to account for the pain or the local manifestations are nothing more than a slight conjunctivitis, a muscular insufficiency, some hyperopia, or presbyopia without error of refraction. Further observations and treatment show, however, that these local conditions were only incidental and have in reality nothing to do with the sensations the patient complains of, since the removal of these complications does not get rid of the pains or at most affords but slight relief.

The heaviness of the eyelids continues as before, even when the conjunctival catarrh has been cured.

The use of prisms or of convex glasses, or tenotomy of the external rectus affords but little aid to vision, indeed it frequently happens that although glasses make vision more distinct they rather increase the patient's discomfort; the glasses are too strong or they make the sight too distinct, or the frames press uncomfortably upon the nose or temples and increase the pain or cause distress in the head. The reflections from the glasses are also a constant source of annoyance. Even blue glasses cause the same discomfort although in some respects they afford partial relief.

The hyperæsthesia thus depicted, is seldom confined to the fifth nerve, but almost always affects the optic nerve too. This finds expression as an intolerance of light or undue sensitiveness to bright light. Ordinary diffuse light is, however, less distressing to the patient than artificial light. Such patients complain much more of artificial than they do of daylight, although the latter is infinitely the stronger. They are much less incommoded by the light of a cloudy sky or even by bright sunlight, than by that of a lamp in a darkened room.

During the daytime they go about without blue glasses, but in the evening with the lamp lighted upon the table they cannot endure the white tablecloth. It must be covered with some dark material or at least with a printed newspaper. The white bedquilt, the brass lamp pedestal, or the opaque glass globe dazzle and cause pain in the eyes, consequently must be covered. The lamp must be removed to some out-of-the-way place in order that the room may be sufficiently dark, or the patient retires to an unoccupied and darker room.

I believe this peculiar intolerance of light, which by the way, is never associated with lachrymation, may be regarded as an intolerance of contrast between light and shadow in the visual field which is far more striking in artificial than in daylight for it is not at all likely that the artificial light in itself possesses any special quality which causes it to irritate such eyes.

It is also worthy of note that these patients have their good days and bad days without apparent cause for the variations. During the good days they are almost free from pain, bear the light better and can sometimes even read for hours at a time; but on their bad days all the symptoms are pronounced even when the eyes are kept perfectly at rest. The pain never interferes with sleep and the patient is never awakened by severe pains in or about the eyes. If awakened from any other cause, the only discomfort is a feeling of dryness or heaviness of the eyes.

In the morning, perhaps for several hours, they get on fairly well, later on the labors of the day induce fatigue or loss of tone, and with this their pains begin. It may be that these nocturnal remissions are due to the recumbent posture rather than to the removal of external impressions. For example— a young woman has an abortion with great loss of blood and on this account remains in bed for several weeks. During this time she is free from all her eye troubles, can read, etc., but so soon as she is up and about again they all come on again. Shortly before and after menstruation the symptoms are generally more pronounced.

These patients are for the most part exceedingly verbose, describe their pains in hyperbolic phraseology and talk of them incessantly, but the entire absence of objective symptoms and a behaviour inconsistent with any severe disease arouse a suspicion of simulation; or at least of exaggeration.

The morbid visual sensations which these patients sometimes describe and the circumstances which seem to arouse them are simply innumerable. Nevertheless, vision is very frequently not in the least impaired, in fact it is apt to be remarkably acute. If there happens to be a slight amblyopia it presents no special characteristic either subjective or objective; indeed, it is difficult as a rule to determine with certainty whether the somewhat diminished visual acuteness occasionally met with is not an habitual condition existing prior to the occurrence of pain and intolerance of light. In only two cases out of several hundred the pupils were 5 m.m. in width and unaffected by light. This symptom is therefore of rare occurrence, though probably in some way dependent upon the same conditions as the other phenomena. This class of cases is rarely met with among men, although nervous men are common enough. The malady in question may therefore be justly regarded as a prerogative of the female sex. I desire, however, to emphasize the fact that I have met with a small number of men who suffer in precisely the same way.

The vast majority of cases, however, are elderly spinsters, sterile or prematurely sterile married women and widows.

Among childbearing women the affection is rare [indicative of freedom from disease of the reproduction organs], and when present is always ameliorated during pregnancy.

We hear the same complaints from girls between 15 and 25 years of age. After the age of 60 the affection is almost unknown. Among 56 typical cases chosen from a large number on account of having been more accurately observed, two were between 15 and 20 years of age, 23 between 20 and 30, 12 between 30 and 40, 15 between 40 and 50, and 4 between 50 and 60.

The disease is more common among the well-to-do than the poorer classes. In 1000 cases only 8 or 10 belonged to the latter.

The general health as a rule is conspicuously defective, sleeplessness, nervous irritability, palpitation of the heart, low spirits, pains in the abdomen and small of the back, and constipation are commonly present. Pains in the arms and fingers are often experienced. The entire array of nervous manifestations known under the name of hysteria and often associated with a certain perversity of behaviour is now and then observed, although the typical hysterical phenomena such as an uncontrollable tendency to laugh or cry, globus hystericus, convulsions, paralysis of sensory or motor nerves, *arthropathia hysterica*, are seldom met with among these patients.

In some cases hysterical symptoms are entirely wanting, and indeed, kopiopia hysterica may be associated with an appearance of robust health.

The group of symptoms described, and which are extremely characteristic so far as they concern the eyes, are always associated with and caused by a peculiar chronic inflammation of the cellular tissue surrounding the uterus or atrophic parametritis chronica.

Professor Freund of Breslau was the first to recognize this affection of the genital organs and in the course of 14 years has met with it in a large number of patients suffering from the above described visual disturbances.

The connection between this affection of the eyes and disease of the genital organs is so constant that whenever the former is met with the latter may with certainty be assumed to exist. Since Freund has proved the existence of this disease of the genital apparatus by numerous autopsies and preparations I shall give here a brief description of the morbid conditions in his own words as follows —

"That part of the pelvic cellular tissue which immediately surrounds the cervical portion of the uterus is called the parametrium. This structure presents several peculiarities which distinguish it from other pelvic cellular tissue.

It is destitute of fat and of closer texture becoming more and more dense as the uterus is approached. The portion which immediately surrounds the uterus shows on horizontal sections a stellate arrangement and carries the principal blood and lymph vessels as well as the nerves which supply the uterus and to some extent the ovaries also. Traced downwards it will be seen that this dense connective tissue envelope of the uterus arises from that part of the fascia pelvica interna which surrounds the vagina. The great ganglionic apparatus of the uterus lies imbedded in the parts surrounding the lateral portion of the Laquear vaginæ but above the level of the Laquear.

From this part of the Parametrium which immediately surrounds the cervix uteri proceed certain pathological changes of a chronic inflammatory character analogous to similar affections met with in other organs (such as the liver, kidneys and lungs) not only in progress and results of the disease but also in the phenomena they give rise to during life. The chronic inflammatory process begins insiduously and carries first a hyperplasia, then a cicatrical contraction of the affected connective tissue and spreads in every direction, more especially along the base of the broad ligaments as far as the walls of the pelvis, spreading from this to the cellular tissue surrounding the rectum and bladder. It spreads upwards very often to the round ligaments which rest in the anterior leaf of the broad ligaments but seldom to the Fallopian tube; lastly it extends downwards as far as the upper third of the vagina. The broad ligaments are thickened by hyperplastic proliferation of connective tissue, especially in their lower parts these two surfaces are, so to speak, glued together and cannot be made to slide over each other as in the normal condition. The ureters are drawn towards the cervix uteri, and their lumen contracted just where they are most closely surrounded by the shrinking connective tissue.

Blood-vessels coursing through this tissue participate in the same process and nerve fibres running through this hard scar tissue are often found more or less destroyed by it.

The action of this disease upon the pelvic organs is manifested at first in a considerable disturbance of the circulation which occasions a venous hyperamia of the genital tube with chronic inflammatory swelling (Metritis Chronica hæmorrhoidalis) which is associated with similar changes in the rectum and bladder, catarrh of the genital mucous membrane, irregular and often profuse menstruation. In the later stages of advanced atrophy, there is atrophy of the pelvic cellular tissue generally, involving even parts which are not directly connected with the cicatrizing process, atrophy of the genital canal, especially of the uterus, which frequently acquires an uneven surface, partly caused by varicose nodules and partly by the irregular pressure of cicatrizing areas upon the adjacent uterine substance.

The analogy between this disease and cirrhosis of the liver, fibroid degeneration of the lungs and granular degeneration of the kidneys is most striking.

The disease is not a rare one, it occurs in women who have borne children as well as in those who have not. Clinically most cases may be traced to undue excitation of the genital organs complicated with excessive secretion. The course of the disease is essentially chronic, the prognoses in respect to a restitutio in integrum is unfavorable; although the organic changes are permanent the nervous phenomena ultimately subside.

Kopiopia hysterica is not curable. It always disappears in time, though often not until the patient has spent years and years of suffering. I have never observed that it tends to induce any other disease of the eyes either inflammatory or non-inflammatory.

According to my experience, there are not many remedies that can be relied upon to relieve the symptoms, such as pain and intolerance of light, but a certain degree of improvement may be confidently expected after the patient has taken, in the course of four days, castoreum Canadense 2.0 and Ext. Valeriana 4.0. The improvement lasts at the most some four weeks. Acetate of zinc takes second rank as a remedy in this affection, quinine, narcotics, and cold eye douches are either useless or of problematic value.

Protective glasses are always indispensable, only care must be taken to avoid the darker tints. On no account should the patient be permitted to remain in darkened rooms, such a course never succeeds in diminishing the intolerance of light. On the contrary protracted seclusion in a darkened room invariably augments the functional irritability.

Measures should be chiefly directed to the cure of the parametritis chronica; this, however, is unfortunately not very amenable to treatment when the restoration has become complete.

At or about sixty years the hyperæsthesiæ are likely to subside entirely, at least in so far as the optic and fifth nerves are concerned."

It will be observed from the foregoing that the kopiopia hysterica so well described by Förster is attributed by him to a form of wasting parametritis chronica.

It will be our object to show that other morbid conditions affecting the uterus and pelvic organs are also capable of giving rise to persistent forms of asthenopia, and we believe the opthalmologist and gynecologist will have conferred a mutual benefit upon each other, and assisted the progress of medical science when they have succeeded in defining more accurately the various morbid conditions in and about the uterus which give rise to and perpetuate asthenopia. Physiology has not yet been able to disclose the several links in the chain of nerve perturbation which associates functional weakness of the visual organs with parametritis chronica and although pathology may discover wide deviations from the normal condition at one end of the chain there is often nothing at all to account for symptomatic disturbance at the other.

We have seen severe and obstinate cases of asthenopia relieved by the removal of morbid conditions in other parts supplied by the fifth nerve, and we have observed certain inflammatory affections of the eyes relieved in the same way, but in those the reflex area is all within the domain of the same nerves.

When however, the primary lesion is in parts so remote as the genital organs it is far more difficult to understand the complex relationship which must exist between parts so widely separated from each other, in order to account for this reflex form of asthenopia. It cannot be explained by assuming mere loss of tone or debility of the system generally, since extreme debility often exists without the least visual disturbance, and on the other hand disturbance of the uterine functions associated with asthenopia is quite consistent with robust general health. That this should be exceptional may be granted without diminishing the importance of the fact, indeed it is all the more reason for further investigation of such cases. When the opthalmologist and gynecologist shall have compared notes sufficiently often we may perhaps be in a position to understand these Hystero-neuroses better than our predecessors have done.

Cases have been reported by MacKenzie, Von Gräfe, Meyer, and others, which shew a certain connection between diseases of the eye and the organs of generation, but which are not of a reflex character; they are not neuroses, but cases of actual amblyopia, in connection with amenorrhœa and dysmenorrhœa, caused by extravasation of blood into the retina during intense cerebral congestion depending upon the retention of the menstrual flow. Oculists have informed me that the majority of cases of asthenopia consulting them, except those due to overuse of the eyes, errors of refraction, or muscular anomalies, are found in females, many of whom suffer from menstrual irregularities or other evidence of uterine disturbances. These patients are carefully treated with tonics to invigorate the debilitated system; the eye condition is attended to, but it is found that they do not improve, and will not until the uterine lesion has been cured. Decrease in the power of vision, dimness of sight as if a cloud was passing before the eyes, occur both as menstrual and pathological neuroses, and are relieved by treatment of the uterine disease. Meyer relates the case of a maiden lady, aged 40, in whom the menstrual flow was ushered in by an amaurosis of several hours' duration, which disappeared as suddenly as it came on, but was never accompanied by symptoms of cerebral congestion—evidently a menstrual reflex which would have yielded to proper uterine treatment. Engelmann says: "In all cases of true reflex neurosis no structural changes exist, in the early stages at least, and the ophthalmoscope will reveal an absolutely healthy condition of the fundus of the eye, but after a duration of years the disease, heretofore simulated, may develop in place of the phantom. In no organ is the persistent continuance of a reflex so liable to result in actual changes as in the eye." Cases are reported by Dr. Fordyce Barker where Drs. Agnew and Noyes failed to find any pathological changes in the eye, and after proper treatment of the uterine lesion the patient lost all morbid affections of the eyes. The more trivial forms of ophthalmic disease yield but slowly with improvement of the uterine affection, if treatment has not been begun early, and it is only the more violent and rapidly developing symptoms which respond as readily to uterine treatment as do the other reflex neuroses. In fact, experience seems to show that ophthalmic reflex neuroses are more persistent and yield more slowly to treatment than those of any other organ, and if they have existed for years they are liable to result in structural changes or disease proper of the eye, which is not the case with other reflexes. Although this view may not be accepted by many ophthalmologists, all will concede the fact that asthenopia, as a hystero-neuroses, may persist for an indefinite period, defying all measures for its relief until the uterine defect has been corrected. According to Rampoldi,* there are five groups of sexual diseases which affect the eye, as follows:

(1.) Hysteria and chronic metritis are causative of asthenopia and retinal hyperæsthesia.

(2.) Menstrual disorders. Amenorrhœa is causative of conjunctivitis, keratitis, iritis and phlyctenulæ. To suppression of the menses he refers diseases of the choroid, with neuritis and retinitis. The tendency to glaucoma is known to accompany a sudden suppression.

(3.) Inflammatory diseases occur in hyperæsthesia and neuralgias of the trigeminus.

(4.) Pregnancy causes the difficulty accompanying the albuminuria of that state. Amblyopia and amaurosis have been common from three to fourteen days after hemorrhage.

(5.) During lactation and the puerperium the following have been observed: Panophthalmitis, ulcers of the cornea, retinitis, photophobia, disturbances of accommodation and other morbid conditions resulting from debility.

These views are held by Rampoldi in regard to eye affections associated with pelvic disease, but it is difficult to trace any positive relationship of individual ophthalmic affections to such pelvic disease; few indeed of them are reflex neuroses. We believe, however, that there are many cases of asthenopia which are undoubtedly of a reflex nature, and will now relate a few examples.

CASE I.—Aged 19, unmarried. Consulted me Dec. 7th, 1891. Menstruation began at 15. She has suffered severe pain at her periods ever since. The pain has been gradually increasing to the present time. Periodicity shortened to three weeks. Great premenstrual exhaustion. Duration of flow 5 to 7 days. Quantity large. Profuse leucorrhœa. Constant backache. Constant headache. Distressing asthenopia. Supraorbital pain. Wears glasses. Irritation of bladder. Nocturnal frequency 5 to 20 times each night.

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* Annals Univ. de Med., Sept., 1888.

Examination.—Uterus retroverted 2°. Pelvic floor painful to touch. Cervix eroded, catarrhal endometritis. Profuse glairy mucoid discharge issuing from cervical canal.

Operation.—Divulsion of cervix with steel dilator. Endometrium curetted. Removed catarrhal patch. Iodoform gauze drain. Shortened round ligaments, using buried sutures. Convalescence perfect. Uterus anteverted when left for home.

June 27th, six months following operation, this lady writes as follows: "My eyes are very much better. I still wear glasses, but with them I do not suffer pain, and the moving sensation over my left eye, from which I have suffered so much, is also removed."

CASE II.—aged 28, unmarried. Consulted me September, 1889. Menstruation fairly regular. Duration 6 to 7 days; rather profuse. Within the past six months has suffered severe menstrual pain, chiefly in back and hypogastrium. Has also constant intermenstrual backache. A false step or sudden jar greatly increases pain. Has severe headaches and supraorbital neuralgia at times. Suffers from asthenopia, and cannot read but for a short time.

Examination.—Uterus retroverted and fixed in well of pelvis. Both ovaries prolapsed into Douglas' pouch. They are very tender to touch.

Operation.—Shortened the round ligaments after a few weeks' preparatory treatment, chiefly rest. Result very good. Uterus in normal position four weeks afterwards, and pelvic floor free from tenderness.

June 24th, 1892 (three years), this young lady writes me as follows: "I can assure you my eyesight has improved very much indeed, and I was very fortunate to have undergone the operation. I have become fleshy and strong, and can walk miles; in fact, I am a new creature. Patients similarly affected can rest assured, with care for a year or so, they will be as well as I am." These statements are made three years after treatment.

CASE III.—Aged 28, unmarried. Consulted me January, 1889. She menstruated every third week; somewhat profuse; duration 5 to 6 days. Complains of great prostration, constant backache and a bearing-down pelvic sensation. There is asthenopia and an inability to read or do needlework without glasses. Pain in back of eyeball.

Examination.—Uterus retroverted, found low down, lying in axis of outlet. Whole pelvic floor tender to pressure. Cervix elongated and conoid in shape, glairy mucus issuing from cervical canal. Chronic endometritis.

Operation.—After due preparatory treatment, I shortened the round ligaments on September 23rd, 1889. I saw and examined patient October 24th following. Found result very perfect, uterus anteverted and fundus lying close to pubic bone. Pelvic contents free from tenderness. I heard from this patient two months ago. She has continued to work as saleswoman up to the present time. She is well; her eyesight is good, and has not given her any trouble since treatment, now three years ago.

CASE IV.—Aged 42; married eleven years, five children, youngest 3 years of age. Menstruation has been very profuse; duration 8 to 9 days as a rule; quantity very large. Profuse leucorrhœal discharge. Constant back and side ache, increased on fatigue, but no special dysmenorrhœal pain. Suffers from distressing headaches, especially post-menstrual. Has great impairment of vision, granular lids, and even with aid of glasses cannot read but a few minutes. Great impairment also of general health.

Examination.—Perineum lacerated and pelvic floor destroyed. Vaginal walls prolapsed. Cervix much congested and eroded, but no evidence of laceration. Extensive hæmorrhagic endometritis. Uterus enlarged and retroverted. Pelvic floor excessively tender to pressure.

Operation.—After preparatory treatment, removed cervix, curetted endometrium, restored perineum by flap-splitting method and shortened round ligaments.

I received a letter dated June 24th, 1892 (one year after), from this lady, as follows:—"I am happy to be able to say that it is many years since my eyes have been so well. The sight is better, but the great improvement is in the lids and strength of the eye. Before the treatment my eyes felt as if they would burst, were much inflamed and were always glued together in the morning. Now I do not know what it is to have anything wrong with them."

CASE V.—For many years a sufferer from uterine disease. Is a great invalid and obliged to spend most of her time in bed or on a couch. Suffers much from pain in the eyes and asthenopia. No error of refraction or muscular fault. Accommodation good. Referred to Dr. Alloway.

Sexual history.—This lady was in greatly reduced health; suffered great pain during menstruation, with excessive flow and intramenstrual leucorrhœa. Examination shows bilateral laceration of cervix with eversion of the cervical segments; hyperplastic endometritis; destruction of pelvic floor and perineum; uterus retroverted, no adhesions. Had borne two full-term children. Wears glasses.

Operation.—Curettement, excision of cervix, restoration of perineum, and shortening of round ligaments. Last report from this patient said she was healthy; had nursed her husband through typhoid fever one year after her operation, and is at present (four years after operation) enjoying excellent health.

CASE VI.—Seen shortly after recovering from Alexander's operation for retroflexion of uterus. Has suffered from weakness of the eyes for several years. Vision normal; no error of refraction beyond a slight compound hyperopic astigmatism; 180°+0.25+0.50; V.=6/5 each eye; these prescribed for. No muscular anomaly or fault in accommodation. When last heard from was able to use the eyes comfortably without glasses. No treatment other than the operation performed by Dr. Alloway (see Case I) was pursued.

CASE VII.—Aged 34; a delicate-looking woman. Sent to me on account of headache and pain in the eyes, always aggravated by their use in any near work. Complains chiefly of pain in top and back of the head much increased by use of the eyes. The eyes appear normal and there is no lack of accommodation. Not more than 0·50 of hyperopia. No abnormality in the muscular functions. V.=6/6, each eye. Sent to Dr. Alloway on account of pain in the back and side, leucorrhœa, etc.

Sexual history.—This case was a wretched, confirmed invalid, in constant pelvic pain, and unable to follow her occupation of seamstress. The uterus and appendages were firmly fixed to the bottom of the pelvis *en masse.*

Operation.—Laparotomy; found appendages densely adherent to uterus and broad ligaments in Douglas' pouch. Removed appendages with much difficulty (chronic purulent salpingitis). Sutured uterus to anterior abdominal wall. Recovery perfect. This patient reports herself (eighteen months after operation) being in perfect health, works hard at her trade, and has good eyesight.

CASE VIII.—Aged 40. Eyes weak, and painful when used. Often pain even when not used, and always intolerant of artificial light. No muscular anomaly beyond a general want of power in the ocular muscles as tested by prisms. Acc. good. Hyperopia=0 50D., but unable to use the eyes continuously—either with or without glasses. Referred to Dr. Alloway on account of supposed uterine trouble.

Sexual history.—Married 21 years; four full-term children, youngest 12 years of age. Has had many miscarriages, Last pregnancy six years ago. Menstruation irregular; duration eight days. Severe dysmenorrhœa, increasing in severity of late. Is a great sufferer from constant pelvic and abdominal pain, and incessant vomiting for days at a time. Has had cervical canal dilated upon several occasions by sponge tents.

Examination.—Uterus anteflexed; both broad ligaments seem thickened and fix uterus and appendages to the side walls of pelvis; whole pelvic contents extremely tender to touch; cervical canal open and issuing glairy muco-purulent discharge. Patient has been for years a confirmed invalid.

Operation.—Laparotomy. Removed appendages; they were so adherent and encased in organized exudation that they had to be removed piecemeal. Recovery perfect.

This patient, when seen a year after operation, reported that she had no attack of vomiting since operation. Her eyesight was much better, but, from a feeling of precaution, wore glasses. Quite recently this patient reports that her health has been quite restored. Has no pain whatever; has become stout and strong. Her eyesight normal.

Case IX.—Has been a chronic invalid for years. For the past twelve months subject to great weakness of the eyes, which has taken the form of recurrent attacks of kerato-conjunctivitis. The right cornea presents a central nebula, the left a zone of fine blood-vessels encroaching on its upper third. The conjunctiva of eyelids is very hyperæmic and decidedly roughened near their anterior margins; the lids, too, press more closely than is usual upon the eyeballs. This patient also presents a hypertrophic rhinitis and acne of the external integument of the nose. The irritability of the eyes may be due in part to the nasal trouble. Pain and intolerance of light are much complained of. These conditions have persisted, with occasional remissions, since last autumn.

Sexual history (May, 1892).—Extensive laceration of cervix with eversion of segments. Pelvic floor destroyed and perineum torn to sphincter. Hyperplastic endometritis. Pain and menorrhagia. Intermenstrual leucorrhœa. Constant headache and backache.

Operation.—Curettement; excision of cervix; restoration of pelvic floor and perineum.

The husband of this lady writes, date October 24th, 1892; "She is now enjoying very good health. Her eyes are much better and stronger. I am hopeful the improvement will be permanent."

—Quinquaid has confirmed Unna's statement as to the presence of a special microbe in soft chancre. It is a bacillus with rounded ends, and is generally arranged in chains. It is present in prodigious numbers in the lymphatics and intercellular spaces.

A Garbage Crematory not a Nuisance.—It has been decided by Judge Hopkins in Lowell that the erection of a garbage crematory could not be adjudged a nuisance until it had proved itself to be so. He refused to grant a temporary injunction restraining the city of Lowell from the erection of a crematory, and decided that if any one found himself injured after the furnace is in operation he would have remedy at common law.—*Boston Med. and Surg. Journal*, Oct. 6, 1892.

ing with these growths by abdominal section. The methods are as follows:—

(1) Enucleation of tumour and obliteration of bed of tumour by means of buried and other sutures. Appendages also removed.

(2) Application of *serre-nœud* to pedunculated fibroid, leaving uterine body, ovaries and tubes intact, and securing the pedicle in lower angle of wound.

(3) Application of *serre-nœud* around the uterus about level of internal os, and including both ovaries and tubes; amputation above or external to *serre-nœud*, and securing the stump in lower angle of wound (parietal).

(4) Application of elastic ligature, circular division of uterine envelope, partial enucleation of uterine body with its contained tumour or tumours, so as to lessen strain on broad ligaments, application of *serre-nœud* on peritoneal aspect, amputation of uterus, and securing stump in lower angle of wound. In this form, the appendages may be included in *serre-nœud*, ligatured separately or even left intact, according to circumstances.

(5) Division of broad ligaments to allow tumour to be lifted out of the pelvis, elastic ligature, enucleation of tumour, application of *serre-nœud* so as to include the appendages, and securing the stump in lower angle of parietal wound.

(6) Elastic ligature, enucleation of tumour and uterine body, after circular division of uterine peritoneum, application of *serre-nœud* to uterine body thus enucleated, separate ligature, and removal of appendages, and securing the peritoneal envelope to parietes.

The first is an example of the intra-peritoneal method; the others are examples of the extra-peritoneal method.

Dr. Bantock recited the history of the cases from which the specimens were obtained.

Abdominal Section for Diagnostic purposes.—Dr. Clinton Cushing, of San Francisco, writes a short paper in defence of this subject. Dr. Cushing is unquestionably correct in his views and deductions, and it should be the duty of every surgeon to impress upon the physician the great necessity of having the abdominal cavity explored as soon as possible after being called to the case and he feels in doubt. Many lives will certainly be saved, and the public will become impressed with the usefulness of it. To stand with folded hands for days or weeks, and speculate as to what might be the cause of suffering in a given patient, is certainly not scientific medicine of the present day, and will surely tend to bring upon our heads a feeling of disdain and want of confidence on the part of those to whom we should look for admiration and respect. I do not, however, agree with Dr. Cushing when he criticizes Mr. Greig Smith on the remark made in the latter's book, "No incision ought to be merely exploratory." "The exploratory incision of the skilled surgeon is widely different from that of the tyro." No man should make an exploratory incision unless he is prepared to complete an operation for removal of diseased parts found, provided, by doing so successfully, he ensures to the patient material benefit; therefore exploratory incisions should be made only by abdominal surgeons who have been careful to provide themselves against all emergencies, and thus increase to the highest possible degree the patient's chances for recovery.

Dr. Cushing mentions cases of ectopic pregnancy, of obstruction of the bowels, disease of the appendix, affections of the liver and gall bladder, of the kidneys and of pus collections in any part of the abdominal cavity, which surgeons equally skilled disagree upon in regard to a positive diagnosis without an exploratory incision.

Dr. Cushing describes minutely in his paper some interesting cases. One where he and other surgeons in consultation expected to find pus tubes, but instead found a distended gall bladder containing gall stones and pus. In another case cited he expected pus tubes again, but found as well an appendix abscess associated with a pyosalpinx of the right side.

In another case pelvic abscess was diagnosed which would have been treated, some years ago, by puncture through the vagina [or by some at the present day by electricity]. When the abdomen was opened a double pyosalpinx was found, and on further exploration a secondary foul smelling omental abscess with gangrenous walls was discovered.

In another case described the patient had experienced a miscarriage of six weeks pregnancy a few days previously. There was great distension of the abdomen, a large tumor felt in the pelvis and a temperature of 104.5°. An offensive uterine re, and the uterine cavity measured six inches. The abdomen was immediately opened; a large sloughing uterine fibroid and general purulent peritonitis was found, pus was seen escaping into the cavity from the Fallopian tubes. The broad ligaments and the uterine arteries were tied off and the uterine tumour with appendages were removed and the stump closed by Schröeder's method with catgut sutures. The temperature at once dropped to 100° and patient eventually recovered.

Another case aged 20, temperature 102°, pulse 130, one child two years ago, had an attack of pelvic peritonitis eight months previously, since which time has been suffering great pelvic pain, progressive emaciation accompanied by fever and perspiration. Examination showed pelvic organs fixed and tender, abdomen not distended; when the abdomen was opened a great gush of fœtid pus, in quantity about three quarts, took place. This pus cavity extended from Douglas pouch to the ensiform cartilage. No pelvic or abdominal organs were in sight, being pushed away in every direction and buried in lymph. At time of writing this patient was convalescent, and her chances were favorable for recovery.

Dr. Cushing remarks that if tentative measures had been adopted here, the consequences would have been disastrous. There was no way of learning from external examination of the great extent of the disease, and the wonder was that she could have lived under such circumstances.

These cases of Dr. Cushing are of great value in point of instruction to the general practicing physician, upon whom so much responsibility in such cases rests. He should act promptly and give these poor patients a chance for their lives.

Dr. Fancourt Barnes reports in the *British Gynæcological Journal* for August, a case of ovariotomy in a patient 72 years of age. The patient on the third day developed a parotitis—non-suppurative—which subsided in a few days. This intercurrent condition was supposed to be due to injury to the pelvic organs and not to infection. Dr. Barnes drew attention to the fact that ovariotomy is not by any means common at that advanced age. Dr. Bland Sutton, in his recent work on "Surgical Diseases of the Ovaries and Fallopian Tubes," shows a list of 22 cases of ovariotomy in patients over 70 years of age.

Carcinoma of the Cervix in the Negress.—D. J. W. Williams, of the Johns Hopkins Hospital, r probably the first one reported. The patient was a dark, full-blooded negress, 38 years of age, married for sixteen years; had eleven children, all labours being normal, and nursed all of her children. On examination, extensive infiltration was found involving the uterus and broad ligaments. The microscope confirmed the clinical diagnosis.

Dr. W. Chapman Grigg in his valedictory address as retiring President of the British Gynæcological Society, May, 1892, made the following remarks:—" I feel very strongly that if gynæcology is to accomplish all the good of which it is capable, the progress which is being effected must be brought home to the general practitioner, upon whom, in the majority of instances, falls the burden of the preliminary diagnosis, without which the resources of our art must to a large extent prove unavailing. We may fairly say that we have taken no mean part in breaking down many of the barriers which conservatism in science had raised to hinder the free evolution of our branch of medicine. Gynæcology, which not long since was practically *terra incognita* to the general practitioner, is fast becoming part and parcel of his education, and in proportion as this special knowledge becomes generalized, we find that the old idea as to the frequency of this or that disease requires to be modified." Dr. Grigg then refers more especially to the advance made in the surgical treatment of ectopic pregnancy, a condition which was regarded, until quite recently only as a pathological curiosity. In this and other morbid conditions he points out the great necessity for the family physician to be capable of making an early diagnosis, and to attain this end he should avail himself of every opportunity afforded in the examination of the female pelvic organs.

Extra Uterine Pregnancy.—Prof. Maur of Stockholm, reports two cases of interest (*Anals of Gyn. and Pæd., Sept.* 1892.) First case aged 29, last birth eight years ago. She became pregnant in February, 1890. In May she had a hœmorrhage which lasted for 14 days continuously. It then became intermittant.

June 6th.—She became seriously ill. Severe abdominal and vomiting with symptoms of collapse. Abdomen vaginal examination found cervix pushed to right, ned nor enlarged, the corpus over to left and mobile. To right of uterus a round, slightly elastic resistance, the upper border of which reached about one inch above symphysis. It extended back to the spine. It surrounded the cervix and lay close to the uterus, though separated from it by a distinct furrow. It is smooth; it can be more plainly felt *per* rectum and gives to sense of touch the outlines of a tumor and not of an infiltration. It is very tender, traces of albumen in urine. Other organs healthy.

June 18.—Seized with severe pain in epigastrium and entire abdomen, vomiting, pulse feeble and rapid (112). Became pale with indication of profound collapse. Examination revealed little change in tnmor.

June 21st.—Operation.—Large quantity of thin fluid black blood flowed through abdominal wound. Tumor composed of fœtus, and large mass of hard black coagulum occupied lower right pelvis, slightly adherent to surrounding parts. Fœtus lay outside sac in Douglas' pouch. Pedicle formed by right broad ligament. Secured by silk and tumour removed. On closing the wound a fresh hemorrhage was detected, and on search being made it was found to be due to the slipping of the ligature [showing the great uncertainty of silk in comparison with large-sized catgut]. The stump was seized with difficulty and religatured. Patient convalescent in fourteen days. The temporary albuminuria which existed before operation disappeared a few days after.

Conclusions.—June 7th—Hemorrhage into the sac, destroying life of fœtus (fourth month). June 18th—Rupture of sac and escape of fœtus, and intra-peritonal hemorrhage.

In the above interesting case Dr. Maur should undoubtedly have operated directly after the 7th without delay. His patient would have had a much better chance of recovery than by waiting until the sac ruptured and fresh and more serious hemorrhage had occurred. I would also suggest to Dr. Maur the adoption of large-sized catgut for heavy ligature; it is elastic and tightens with shrinking of the pedicle.

Case 2.—Aged 34: married fourteen years; nullipara. Became pregnant in April, 1890. June 1st, became suddenly very ill; severe abdominal pain, pale and collapsed, followed by unconsciousness for a long time. Severe vomiting all day. Following day uterine hemorrhage, which continued several days, with escape of blood-clots. During whole month of June she suffered severe abdominal pain, and the abdomen became gradually enlarged. July 1st—Patient anæmic to extreme degree and appears to suffer intensely, especially with movements of body. Examination gave evidence of a tumour in the pelvis, divided by a central sulcus into two portions. Cervix looking forwards and fixed close to pubes.

Operation.—Intestines found adherent universally; a large black tumour found below intestines and adherent; tumour contained a large quantity of thin black fluid and hard masses of coagulated blood, also the fœtus. These were all removed and the cavity cleansed as well as could be done. It was then closed in the usual manner. Patient died on the sixth day. The pathologist, after an autopsy, gave it as his opinion that the patient died from septicæmia, which had existed prior to the date of the operation.

Conclusions were: Conception took place about April 1st. Then June 1st, rupture of fœtal sac occurred with escape of fœtus and considerable hemorrhage, after which it became encapsulated. At this time a general peritonitis developed.

[It is evident from the history of this very interesting case that June 1st or thereabouts would have been the time for her to have been admitted to hospital under Dr Salin's care, instead of which she was kept under medical supervision until the 27th, all of which valuable time was lost, and with it the life of the patient. Had she been seen on the 1st of June by Dr. Salin and operated upon she would in all probability have been saved.]

Sarcoma of Cervix.—Y. PFANNENSTIEL (*Virchow's Archiv.*, vol. cxxvii, part 2, 1892, p. 305) tabulates the twelve cases of this rare and very malignant disease which have been authentically recorded. The series includes a new case under his own observation. The patient was fifty-three. A structure taken for a simple mucous polypus of the cervix was removed. Eleven months later recurrence was discovered; a large racemose growth had developed. It was removed and the cervix scraped. Six months afterward a racemose mass filled the vagina. The patient was weak and cachectic. The uterus was extirpated. Symptoms of recurrence were detected five months later, yet sixteen months after the removal of the uterus the patient was alive, though very cachectic; the vaginal wall was infiltrated. This was her condition when the report was published. With the exception of two patients lost sight of, the disease recurrred in all the twelve collected cases. Strange to say, though the clinical and naked eye characters of racemose sarcoma are fairly constant, their histology is more variable. They are pedunculated tumors, looking like a bunch of fruit, but they may be adenomata, myxomata, or even tumors consisting to a great extent of embryonic striped muscle cells (Pernice). Early diagnosis is very difficult. These tumors are much softer and more friable than true mucous polypi. Racemose sarcoma is much more malignant than any kind of cancer of the uterus or any other variety of sarcoma of that organ. The only active treatment justifiable in cases of this diseases is total extirpation of the uterus, and that severe proceeding is useless and not to be attempted if the incision in the vault of the vagina cannot be made over two-fifths of an inch outside the area invaded by the disease.

Intestinal Complications from Delayed Operation in Suppurative Disease of the Uterine Appendages.—Dr. CHARLES A. L. REED, in a paper read before the Academy of Medicine (*Cincinnati Lancet Clinic*, March 12, 1892), says: "I have from time to time presented to the academy specimens illustrative of complications arising from delayed operations in cases of suppurative diseases of the uterine appendages. For the most part the complications have consisted of pelvic adhesions which have rendered the enucleation of the appendages extremely difficult. In some cases a more serious accident occurs, and that accident consists in rupture of the pus pockets in an effort to lift out the appendages.

"In this way the pelvic cavity and the entire field of operation becomes contaminated. It is true that in a majority of such instances recovery takes place because thorough cleanliness is practiced by means of careful flushing, but it does not follow that it is a good thing to contaminate the field of operation with pus. In the majority of all our fatal cases some such complication can be truthfully assigned as the cause of death, and such complications can, with equal truthfulness, be assigned to delay. When, therefore, the question of responsibility for the death comes under consideration, it must, clearly, and in all justice, be laid at the door of the person responsible for the delay."

He reports a case, still under treatment, though nearly well, of a woman of thirty-one years of age, who has suffered more or less for fourteen years from pain and tenderness in the region of the uterus. During this time she also had three pelvic abscesses, two of which discharged through the rectum and the third through the vagina. At the operation the appendages were most firmly bound down, and there was on the right side a cyst as large as a hen's egg. This mass was most firmly adherent to the jejunum, and in the attempt at enucleation a rent an inch and half long was made in the gut. This was closed by Czerny-Lembert suture and drained. Her condition remained good until the second day, when the belly became very tympanitic, and the pulse rose to 160. The patient had passed flatus, and was having no gastric disturbance. On removal of the drainage tube a large amount of odorless gas followed, the belly at once flattened out, and the pulse speedily became normal. Two days later more gas was permitted to escape by means of a grooved director pushed through the recently united incision, after which no more trouble ensued, and the patient is now well.

"There are several points in this case that are instructive. 1. The adhesion to the intestine shows the evil of delay. 2. The escape of gas into the peritoneal cavity shows the possibility of a pinhole fistula which will admit of the transmission of gas but not of fecal matter. 3 Gas from the intestine as high up as the jejunum is odorless and innocuous. 4. A drainage tube may become so fenced off that it will not drain the general peritoneal cavity even of gas."

In the discussion that followed the reading of the paper, the necessity of early operation in these cases was unanimously indorsed.

Sterility.—Dr. ARTHUR W. EDIS says (*Med. Press*): It has been computed that in Great Britain alone there are five hundred thousand married females sterile, or an average of twelve per cent. of marriages which are unproductive. These figures convey, to those who have not studied the subject, a very inadequate idea of the amount of unhappiness caused in so many households by the inability of their occupants to fulfil the injunction given to our first parents to be fruitful and multiply. It has always been held as a reproach to a woman that she has no offspring, and in many instances the desire for children is so overpowering that women will consent to risk their lives by submitting to an operation rather than remain sterile, or endure much pain and discomfort in the way of local treatment, if only a reasonable prospect of success can be held out to them. The question of sterility in the female has from time immemorial attracted the attention and taxed the ingenuity of the medical practitioner. The causes are so manifold, and the difficulties in arriving at a correct or rational explanation of the defect so great, that many practitioners give up the attempt to deal successfully with the subject in despair. Much as we may regret it, the fashion of the passing hour exercises a considerable influence on the successful treatment of sterility. By some, nothing but misplacements, versions, and flexions of the uterus are considered worthy of attention, and much ingenuity is expended in adapting various forms of pessaries to remedy these; others ignore entirely the position of the uterus, contending that this has little or nothing to do with the fact of impregnation, and direct their attention entirely to the condition of the uterus, believing that congestion and inflammation explain the whole difficulty. Undue acidity of the vaginal mucus or increased viscidity and alkalinity of the cervical mucus is looked upon by some as the all important cause, and efforts are directed solely to the rectification of this abnormality. Then again, stenosis of the os internum or externum is regarded as the all sufficient cause, and dilatation by means of graduated bougies, laminaria, or sponge tents, or rapid dilatation by uterine dilators resorted to. Division of the internal os by means of metrotomes or other cutting instruments finds favor with some, while others contend that complete division of the external os by Kuchenmeister's scissors, or other means, is the only proper expedient. Intra-uterine stems are largely employed by others, and are credited with invariable success, though if all the cases treated by this method were published, the balance would probably be considerable against it, taking into account the risks and dangers attending their employment.

Surgical Treatment for Laceration of the Cervix.—Whenever a laceration occurring at the cervix extends through the internal and external muscular tissue, the mucous coat lining the canal suffers materially from the violence. The plicæ palmatæ, which have been described under the term arbor vitæ, undergo serious disturbance in their relation to the other tissues with which they are connected. This condition often leads to congestion, thickening, and to induration of the parts involved, and to more or less hypertrophy and malnutrition of the higher uterine segments, and to changed relation and displacement of the lower cervical zone. When laceration occurs at the cervix, not only are the muscular and mucous structures injured, but the mucous glands that so freely abound in the cervical canal also become disturbed in their normal functional activity. It is especially in the cervix uteri about the arbor vitæ that the mucous follicles, which, when in a healthy condition, afford only moderate moisture for the maintenance of their function, pour forth an altered, perverted, or diseased secretion. The arteries and arterioles entering into these structures often become preternaturally developed or enlarged; there will often be found a greater interlacing or anastomosing of these vascular structures. This condition may lead to more or less local œdema, which the venules and lymphatics will fail to overcome. The structure of the uterine nerves, particularly those derived from the hypogastric and sacral plexuses, becomes so deeply involved that not only do the parts in immediate contact with the torn or injured surfaces become the source of much trouble, but all the tissues forming the uterine body may continue so heavily congested, and become so thickened, indurated, and globular, as to constitute that condition which has so aptly been termed subinvolution of the uterus. The treatment best adapted for the relief of the suffering that occurs in every such case, according to my experience, is that afforded by surgical measures.—*Dr. Clark* (*Med. News*).

Results of Vaginal Hysterectomy in Cases of Uterine Cancer. —Terrier and Hartmann (*Revue de Chirur.*, April, 1892) publish a series of eighteen cases of vaginal hysterectomy performed for the removal of cancer of the uterus, and also give the results of recent inquiries concerning eighteen other cases of a like kind, which were tabulated and published in 1888. In each series the immediate mortality from the operation was 23.5 per cent. In the second and later series death was due in one case to shock, and in two cases to peritonitis. In one case the patient died on the fourteenth day in consequence of phlebitis of the main venous trunk of the lower limb. Of the patients referred to in the first series of cases who recovered from the direct effects of hysterectomy, two were living and in good health after long intervals—one after six years and four months, the other after five years and four months from the date of operation. In eight cases included in the earlier list recurrence occurred after intervals varying from six weeks to two years. In five of the second series of cases the patients when last seen were living after intervals varying from three years and five months to eight months. Of these five patients, however, two presented indications of return of the disease in the vaginal cicatrix. The authors point out that vaginal hysterectomy is a serious measure, as these tables show a death rate from the operation itself of about twenty-three per cent. The results of this treatment are, it is held, not more serious when it is performed as a paliative step than when it has for its object complete removal of the diseased structures. It is indicated, therefore, whenever the cancerous uterus is mobile, although the vaginal cul-de-sac may be involved in the disease. Recurrence, which has been noted in about seventy per cent. of the cases, although usually speedy, may in some cases be postponed for a long interval (from seventeen months to two years, or even longer). These tables show that thirty per cent. of the patients who had undergone vaginal hysterectomy are apparently cured by this operation, even in cases in which the malignant nature of the disease has been proved by both clinical and histological observation.

Correspondence.

THE MEDICAL DEFENCE ASSOCIATION OF ONTARIO AND ITS OBJECTS.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS,—I have been asked to state briefly the objects of the Medical Defence Association. The Medical Defence Association consists of a goodly number of leading practitioners throughout the Province, among whom are to be found past members of the Medical Council, members of Parliament, and others who have taken an active interest and been identified with many of the most important movements in the progress of our profession in the past. Necessarily, when circumstances arise which justify the union of such a number of the profession for some definite concerted action, it becomes the duty of every one to make inquiry into the conditions which provoke such actions. To these our confreres are invited to enquire.

The objects of the Defence Association are to secure the removal of recent amendments to and other sections of the Medical Act which they believe to be objectionable to the best interests of the profession in many ways,—such as the old section No. 27, giving power to make a limited tax annually upon all who pass the Council's examinations, for that body's proper support; the recent action of the Council doubling this same disputed fee, and currently known as the "double or quit" resolution; the issuing of a yearly license called the "Pill Pedlar's Certificate" to practise upon conditions which the Defence Association consider intolerable; as also the Council's action in placing in the hands of a single individual (one of its employés) the autocratic power, under certain circumstances, of cutting off the professional head of every practitioner in the Province.

The Defence Association also voice that latent conviction in the profession which has been forcing itself stronger and stronger to the front every Council election, that the present number of elected members (12) are not sufficient in influence or strength to rule the Council when it comes to a question of medical school interest against that of the general practitioner, invariably succumbing to the mixed blandishments and snubbing, hospitalition and cool indifference practiced so skilfully on them, the result being that the Council is ruled by the teachers sent there by bodies not representing the interests of the profession, and often opposed to them; that it is desirable to increase the number of elected members from 12 to 17; that all election disputes be referred to the county judge and not to a member of the profession; that however justified past Councils may have thought they were in involving the profession in the immense expense of the present building, or all the pressing need of funds, which the Council says exists (though the treasurer states the contrary), it is claimed by the Defence Association such a condition could not exist, if it really does, if proper financial skill had been used; that the duty of this Council was not to attempt extorting from students and the profession, but to relieve them of the burden of this building, year by year growing more irksome, and cut down the expenses wherever possible.

They hold that the Council should have only one confirmatory final examination; that tests of the progress of a student are nothing to the Council, and may be safely left to the teachers of medical subjects, who will take good care their students go fully prepared to the Council's final test; that so many examinations are needless, expensive and vexatious; that neither the public or profession are interested in the elementary steps of this examination; that universities having medical faculties engaged in active teaching send one of that faculty as its representative to the Council annually, so long as that faculty is actually teaching with a full staff; that this representative will assume in his person the duties performed by the two representatives heretofore sent from university and medical faculty; that no one will be received from any senate not approved of by its medical faculty; that no teacher in any university or medical school, nor one holding any position upon any faculty, nor connected in any function with the staff of any school where medical students are being taught, shall *hold any office whatsoever* in the control of the Council.

That the term of office for the elected members be reduced from five to three years.

That all notices of motion relating to any change in existing laws or regulations, given at the final meeting before the term of the then Council shall expire, shall be published in the *Ontario Medical Journal*, and accompany every official notice of that election whenever or however printed or sent to the profession, that the profession may have full notice of them, and their opinions expressed by their votes at the election. There are many other matters—the great tax on students for examinations—the needless number for the purposes of the public or profession—the degree which the ex-president Williams states explicitly the graduates receive no value for—the function of the various offices—the effort to make the Medical Council the exact reflex and power of the whole profession—to do away with all factors of antagonism which have made the Medical Council appear more like a tyrant in the eyes of the profession than a righteous and powerful protector. In the carrying out of these briefly expressed and other much-needed reforms, all members who believe it their duty to join hands with the Defence Association will be welcomed.

Yours sincerely,

J. E. WHITE, Toronto.

CLINICAL NOTE ON URTICARIA.

Although one of the commonest of skin diseases—probably much more so than is generally supposed—urticaria is by no means always easy to *diagnose* or to *cure*. Everyone, it is true, is familiar with the wheals or "white blisters," which are so characteristic of this affection, but these are frequently absent when the patient is seen, and indeed, unless specially enquired for, may not even be spoken of. Take, for instance, the case of a child suffering from urticaria papulosa (the old "lichen urticatus" of Willan), the only lesions present are probably a few scattered scab-topped papules about the loins and buttocks, and the only history one of intense itching, with, perhaps, restless nights and irritable temper. How easily such a case may be overlooked or neglected! Yet this is really a serious affection, which, unless cared for and suitably treated, will become a confirmed prurigo, each successive attack lasting longer and proving more troublesome than that which has preceded it, until finally the unfortunate patient may suffer almost constant irritation and discomfort. Such cases are by no means uncommon.

Where urticaria is suspected, a very useful aid to diagnosis is, in many cases, furnished by the excessive irritability of the cutaneous nerves, which causes artificial wheals to be formed when the skin is scored by the finger-nail—the so-called urticaria factitia.

It must not be forgotten that urticaria in adult patients sometimes affects the mucous membranes as well as the skin, and that dyspnœa or vomiting—even severe hæmatemesis—may accompany an acute attack; or may even occur without the skin being affected, at least at first.

To cure urticaria in any of its forms, it is necessary to discover and remove its cause. This may be very easy or very difficult. The wheals themselves are merely serous exudation (or acute local œdema), dependent on some vaso-motor disturbance due to direct or indirect irritation, which, if posssible, must be got rid of.

Where the irritation has been direct and local only, as from insect bites, stinging plants, or sudden changes of temperature, the indications are simple, viz., to allay itching and prevent scratching (which continues and increases the nerve irritability). When, however, the irritation is indirect, as from disorders of the alimentary canal, or of the uterus and ovaries, it is often far from easy to ascertain or remove the original cause in many cases, but this should not tempt us to be hasty in resorting to the term "idiopathic," which very usually only means "I don't know." "Shell-fish and dyspepsia" is a rough and ready classification of indirect causes. Other articles of diet, however, such as pork, stone fruit, mushrooms, etc., are sometimes responsible; whilst dyspepsia itself is not unusually dependent on defective or unwise diet. Worms must not be forgotten as a common cause in children.

It is, too, associated with a number of other morbid states, thus, with some nervous diseases, with albuminuria and glycosuria, with rheumatism, gout, and intermittent fever; and may prove quite intractable until after these troubles have been relieved or cured.

Where no sufficient cause can be discovered, it may be as well to try belladonna or sulphate of atropia in full doses, as these are supposed to have a direct effect on the vaso-motor centres; or McCall Anderson's plan of giving bromide to reduce reflex nervous irritability may be adopted. These, however, must be looked upon as paliatives only.

Locally, the following will be found useful: for itching spots, menthol and camphor-chloral. For more general itching and irritation: (1) Liq. carbonic deterg., ʒii; water, ℥viii.
(2) Acid carbolic, ʒi; do.
(3) Acid benzoic, ʒii; do.
(4) Thymol or naphthol, 5% lotion or ointment.
Also, tar baths and alkaline baths.

RANKINE DAWSON.

Sept., 1892.

Reviews and Notices of Books.

La Revista Medico-Quirurgica Americana.

This is a monthly journal published in New York in the Spanish language, edited by Dr. Samuel E. Milliken and Pedro J. Salicrup. In the list of collaborators we notice the names of many of the best known medical men in the United States.

The intention of the journal can be best described by an extract from the editorial department: "We will give special attention to original articles on all branches of medical science, including the description of physiological laboratory experiments, reports of cases and clinical notes by practising physicians, and, further, we will fully report the scientific discussions of the medical societies of America and Europe, and anything which we think will be of interest to our readers." Full reports will be given of the proceedings of the Pan-American Medical Congress. The first number carries out this proposed programme, and we are glad to welcome what is sure to prove a valuable addition to the ranks of medical journalism. The *Revista* is published by the J. Shepherd Clark Co., New York.

Surgical Diseases of the Ovaries and Fallopian Tubes, including Tubal Pregnancy. By T. Bland Sutton, F.R.C.S., etc. With 119 engravings and five coloured plates. Philadelphia: Lea Brothers & Co.

The above title portrays the chief character of this little work. It is the best and most concise treatise extant upon these subjects which the practitioner can study. Under these circumstances there will, in future, be no reasonable excuse why any practitioner, no matter how busy, should not be practically familiar with "Diseases of the Ovaries and Fallopian Tubes."

Gynæcology. A Manual for Students and Practitioners. Student's Quiz Series. By G. W. Bratenahl M.D., and Sinclair Tousey, M.D., New York.

This little work is a part of the Student's Quiz Series, edited by Dr. Gallandet. It has the same characteristics common to all such medical catechisms. It certainly will afford very great help to the student during his first summer course, and tend to prepare him for what he may hear and see further on.

Diseases of Women. A Manual of Non-surgical Gynæcology. By F. H. Davenport, A.B., M.D. Philadelphia: Lea Bros. & Co. 1892.

This is the second edition of the work, the first having been exhausted within the last three years. As a text-book it will prove of use to the student, and will, with much profit, be carefully studied by him. It follows the usual course of text-books of its kind, and we can recommend it.

BIBLIOGRAPHY.

Can Croupous Pneumonia be Aborted? By Thomas J. Mays, M.D., Professor of Diseases of the Chest in the Phil. Polyclinic, and Visiting Physician to the Rush Hospital for Consumption. (Reprint from Medical News, Sept. 24, 1892.)

Combined Gynæcological Operations. By George M. Edebohls, A.M., M.D., Gynæcologist to St. Francis Hospital, New York.

Fourth Annual Report of the Provincial Board of Health of Ontario, being for the year 1891. Printed by order of the Legislative Assembly, Toronto.

Practical Suggestions Relative to Cholera. A Circular from the State Board of Health of Massachusetts.

Society Proceedings.

CANADIAN MEDICAL ASSOCIATION.

(Continuation of Proceedings from page 318.)

QUARANTINE AGAINST CHOLERA.

DR. BERGIN, from the select committee on Cholera Quarantine, presented their report, which was as follows :—

GENTLEMEN,—Your committee begs leave to present the following report regarding cholera and the quarantine measures, deemed necessary for its exclusion from Canada :

1. That in the opinion of the Association the time has come when public health interests demand the appointment of a permanent executive officer, whose duties will be to supervise all matters relating to the public health, such as quarantine and vital statistics, which are by law laid upon the Federal Government.

2. That quarantine regulations should be made applicable to the protection of the interior borders of Canada, and that houses for the detention and observation of suspects and hospitals for treatment of the sick, as also disinfecting appliances, be supplied and equipped at Niagara Falls and similar border points.

3. That in view of the constant danger from the clothing and baggage of immigrants, drying chambers should be constructed on every passenger ship, wherein the baggage and clothing may be quickly dried after having been placed in disinfectant solutions, and that their enforced use should be required of every shipmaster.

4. That isolation hospitals be supplied on the decks of all passenger ships for the treatment of those sick of suspected contagious disease.

5. That all passenger vessels require to be supplied with water sterilizing apparatus for drinking purposes, such as that of "West," now being used at Philadelphia quarantine.

6. That at quarantine stations all personal clothing, bed-clothes, towels, etc., from the sick should be placed in disinfecting solutions, thereafter to be placed in the disinfecting chamber or treated in other necessary ways, and that mattresses, pillows, etc., be burned immediately after use, unless steam disinfecting appliances for their proper disinfection are at hand.

7. That at whatever ports immigrants are permitted to land, it is absolutely necessary that the following facilities be supplied—

(*a*) Houses for the proper accommodation of suspects, both cabin and steerage passengers, in buildings erected suitable to each class of passengers, as well as buildings for hospital accommodation. Extra tent accommodation should also be always available.

(*b*) That proper and sufficient bath-rooms be supplied at every station where suspects can be rapidly, comfortably and safely washed.

(*c*) That a certain and adequate supply of wholesome water be always available.

(*d*) That modern latrines with proper conveniences for the observation of the dejecta of suspects be supplied, and that after disinfection the sewage therefrom be disposed of in a manner that will insure perfect safety.

(*e*) That modern steel chambers for disinfecting by super-heated steam, of sufficient capacity for the rapid disinfection of passengers' effects and other goods, be supplied at every station.

(*f*) That furnace and fan be fitted up on either wharf or steamer, whereby the holds and cargoes of ships can be rapidly and thoroughly disinfected.

(*g*) That at every station where there is no deep water wharf, safe and commodious steamers be provided for landing passengers, for observation, patrol, and other quarantine purposes.

(*h*) That an ample supply of bedding and clothing be provided at every station for the necessities of persons landed from ships.

(*i*) That means for the safe and speedy disposal of the dead have been carefully considered by your committee, and it is of the opinion that the ordinary method by burial employed in the past at such stations as Grosse Isle may, if continued, be attended with danger, and would tend to render such stations unsuited for further use as such. Under these circumstances it is believed that cremation of the dead is the best way to secure the safety of the living.

8. That owing to the necessity for the accommodation of healthy passengers detained at quarantine, it is most desirable that the Government at once secure islands, if possible, or other isolated locations at Grosse Isle and other quarantines, where those whose detention may be necessary, shall be comfortably provided for; and for this purpose buildings similar to summer hotels should be erected and maintained.

9. That in view of the imminent danger of cholera reaching America in 1893, this Association is of the opinion that the Government should prohibit immigration to Canada from infected countries.

10. That in the opinion of this Association it is a matter for regret that though it is twenty-five years since Confederation no Government executive officer has yet been appointed to take charge of quarantine and other federal interests; that this Association urgently presses the immediate appointment of such an officer in order that the foregoing recommendations may be carried out with the greatest possible expedition, and that such officer be a man of the highest scientific attainments, a well-known sanitarian, and one devoted to the work.

All of which is respectfully submitted.

(Signed) D. BERGIN, *Chairman.*
PETER H. BRYCE, *Secretary.*

Dr. Rodgers—I do not think that a report of such importance as this should be adopted without at least some discussion on the part of this Association. We all admit that the report is a good one, but it speaks in the name of the Medical Association of Canada, and while we have every confidence in the committee that prepared the report, we owe it to that committee and to this Association to consider it very carefully clause by clause. If I mistake not, there was a clause in the report which says there should be a quarantine station built by the Government at Niagara Falls. Is that correct ?

Dr. Bergin—No ; we say that a house of detention in the case of parties suspected of being infected with contagious diseases should be obtained at Niagara Falls so that they could be kept under observation. It is a point of observation.

DR. RODGERS—That would involve a great deal of expense, and there are not many immigrants entering at that point.

DR BERGIN—Over 40,000 passed through that way last year.

BR. RODGERS—How many passed through by way of Kingston?

DR. BRYCE—Practically none. I have no record of any given me by the railways.

HON. DR. SULLIVAN—You are mistaken; some entered there.

DR. ROGERS—There are other points besides Niagara Falls and no allusion is made to them.

DR. BERGIN—The report says " at all necessary points."

DR. RODGERS—That is, in the first place, a very expensive undertaking—to build a large number of places where passengers could be detained. It involves a very large outlay of money, and we should be careful, as an Association, in making a suggestion which might, by its very expensiveness, be impracticable. In the second place, the committee recommend the Government to select an island and provide a summer hotel for the keeping of passengers and suspected persons for a certain length of time: that recommendation involves a very large outlay of money, and the Government might hesitate a great deal before expending so much.

DR. BERGIN—The Government have no buildings fit for the purpose.

DR. RODGERS—The Minister of Agriculture stated yesterday that he was going to have additional buildings put up at Grosse Isle.

DR. BERGIN—The recommendation of the committee is that appropriate accommodation shall be provided for passengers who are ill, and that there should be no repetition in Canada of the inhumanity and other atrocious things which have occurred at New York in the last few weeks..

DR. RODGERS—I admit all that, but at this late hour the safest way would be to move that this report be taken up clause by clause and considered to-morrow. The good name of the Association is of such importance to its future welfare that we should be very deliberate in our action in this matter. Almost for the sake of what we want to have done by the Government with quarantine matters, we ought to be very careful what we say in this report. This Association represents the whole profession of medicine throughout Canada, and it would be unwise for us to act hastily in any such important matter. I shall therefore move that this report be taken in consideration clause by clause to-morrow.

HON. DR. SULLIVAN—Let us take it up now and go as far as we can to-day.

DR. BERGIN—This is a question which cannot be too fully or too carefully considered, and though we have given a day and a half to the consideration of it and the preparation of this report, the committee do not desire to press it on the meeting at this moment. When the motion was made to adopt the report it was to enable gentlemen like my friend Dr. Rodgers to make any objection to it that occurred to them. He has had an opportunity already to show that he has serious objections to some of the recommendations. Others may share his objections, and if the report is objectionable in any respect the committee are as desirous as any other members of the Association to have those objections met, and if they are not insuperable, to have them removed. The only possible objection I can have to the motion of Dr. Rodgers—and but for that I would cheerfully recommend it—is that we would probably be in for a whole day's discussion of the matter to-morrow, and thus obliged to overlook a great many important and very able papers which I know are to be presented to the Association. I move that the report be considered clause by clause.

The motion was agreed to.

DR. RODGERS—With reference to the clause recommending the cremation of the dead, it is all very well for us here, as practitioners of medicine, to make such a recommendation, but I question very much if there is a government on the face of the earth that is sufficiently strong to act upon it. Public feeling would be aroused to such an extent that the recommendation could not be carried out. We all know the feeling that exists on the subject of cremation, and, practically speaking, the Government could not adopt our suggestion. It is possible that the bodies could be disinfected and carried to sea and buried there without causing the same hostility, and such a course would be as successful a means of prevention as cremation. I do not see why a strong disinfectant would not answer.

Dr. Bryce—Do you mean to say by venous injection?

Dr. Rodgers—Any way you like. I do not see how you are going to have cremation carried out.

Dr. Lachapelle—It is done every day at New York.

Dr. Bryce—They cremated over thirty there lately since the cholera ship came in a month ago.

Dr. Rodgers—I am perfectly certain that the Government of Canada will not carry out that recomendation; that they dare not do it.

Hon. Dr. Sullivan—Then they need not do it.

Dr. Powell—I do not think that the fact that a government may not be strong enough to carry out the suggestion should prevent a body of scientific men giving their opinion as to the best mode of disposing of the dead.

Dr. Hingston—I am most anxious that everything recommended by the committee should be carried out; but if we do come to cremation there might be a little difficulty, which could be got over very easily. Grosse Isle is one of a number of islands, and if we embody in the report a suggestion that either by the purchase of another island in the neighbourhood where burial could take place, or failing that, cremation, the difficulty would be removed. I was quarantined myself the other day and saw the methods adopted there, and I cannot speak too highly of the energy displayed by Dr. Montizambert. As there are other islands in the neighbourhood which are almost of no value, I suggest that a recommendation be embodied in the report that the Government get some of the neighbouring islands for the purpose of interment, failing which the bodies could be cremated.

Dr. Lachapelle—We are here to advise the Government as to the best thing to be done. There is not only a danger in having those bodies buried on the island, but if you use a neighbouring island for the purpose you change the seat of danger. It is to destroy the germs that we recommend cremation. You can understand what it means to have to carry bodies from

Grosse Isle to other islands. There are no other islands very near, and I repeat that burying the bodies on another island is simply to remove the danger from Grosse Isle to another place. You have never seen a protest from any source against the adoption of cremation at New York. We do not want cremation for all cases, but for infectious diseases only. Let people adopt any course they please at home, but Grosse Isle is a public quarantine station and we are recommending the best mode of disposing of the bodies, and, scientifically speaking, I do not know of any better than the one recommended in the report.

DR. BERGIN—I must confess that at first blush I felt almost the same horror of cremation that Dr. Hingston and Dr. Rodgers express, but on consideration I felt that we had not to deal with a matter of sentiment; what we were to deal with was the safety of the community. We had to consider whether, if we objected to cremation, we would not be leaving one of the many doors open for the introduction of cholera into this country. In addition to that, I felt also that Grosse Isle is an immense burial ground where to-day lie thousands of bodies of people who died from the most infectious diseases—typhus fever, smallpox, scarlet fever, and other diseases of equally malignant type—and that if burial was to be permitted on that island the possibility was that in addition to cholera we would disinter those other malignant diseases and Canada would become a pest-house. I felt that sentiment ought not to influence us. The members of the committee felt the difficulty of their position; they were exposing themselves to opprobrium from men who give no consideration to the subject, and who would be guided and influenced solely by the horror they have of the introduction of that which in old times was always the custom but which during later Christian years has not been practised. We felt, notwithstanding, that we had taken upon ourselves a duty, upon the proper performance of which would depend the lives of large numbers of the most valuable of our citizens. We felt that we need not flinch from that duty, and, much as we deplore it, we felt that we should recommend to the Government that cremation should be enforced. We did so for this very reason, that nowhere is there an island sufficiently close to Grosse Isle that could be ob-

CHOLERA.

HORSFORD'S ACID PHOSPHATE.

By the researches of Koch and others, it is found that the cholera bacilli require for their growth, a mild alkaline nutrient medium, and that acids are most useful to kill them.

Horsford's Acid Phosphate has been successfully employed by the Physicians in Europe and America, and possesses special advantages over other acids, because of its beneficial action upon the nerves and process of digestion, and its tonic and general strengthening effect upon the whole system.

Half a teaspoonful in half a tumbler of water, with sugar if desired, will make a palatable drink.

Send for descriptive circular. Physicians who wish to test it will be furnished a bottle on application, without expense, except express charges.

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Beware of Substitutes and Imitations.

WYETH'S BEEF JUICE.

A Liquid Preparation of the CHOICEST BEEF,
containing the Nutritious Albuminous Principles
in an unaltered and soluble form.

A Two-ounce Bottle of pure Juice of Meat.

Actual test will show 3 per cent. by weight of ANHYDROUS ALBUMINOIDS.

Contains the Hæmoglobin of the Meat unaltered.

Mix only with Iced or Lukewarm Water; *Never* with Boiling Water, as extreme heat renders the valuable Albuminous Elements insoluble.

Contains Albuminoids in a higher degree than any other Preparation of a similar nature.

Proportion of NUTRIENT to STIMULATING Properties such that it can be retained by the stomach in EXTREME cases of Debility.

Largely Prescribed by the Medical Faculty of the United States, Great Britain and Canada.

Read the following from THE LANCET, London, Saturday, April 30, 1892 :—

ANALYTICAL RECORDS.

WYETH'S BEEF JUICE.

"The following analytical notes and results testify unmistakably to the excellence of this preparation. It is a dark reddish-brown liquid of pleasant beef-like flavour, and free from objectionable preservatives. It contains not only the albuminous principles of beef in an active and solube form, but in the condition in which they occur in the freshly expressed juice of beef itself. Viewed with the spectroscope a dilute solution is seen to give two absorption bands, characteristic of fresh blood or hæmoglobin. The liquid loses this property, however, as soon as it is boiled; while the coagulated albuminous principles assume a blood-red tint. According to our experiments no less than fourteen grains of solid albuminous principles in every fluid ounce are thus precipitated. The following figures gained in analysis will convey some idea of the eminent degree of concentration through which this preparation has been carried. Notwithstanding this, the vital elements of beef juice it contains have been preserved unchanged. Moisture, 44·87 per cent.; organic matter, 38·01 per cent.; mineral matter, 17·12 per cent. The organic materials contain 4·57 parts of nitrogen, and the mineral matter consists largely of common salt and, of course, soluble phosphate. Results like these make it safe to assert that as an example of preparations of this class Wyeth's beef juice is little short of perfection."

DAVIS & LAWRENCE CO., LIMITED, MONTREAL,
GENERAL AGENTS FOR CANADA.

tained to be used as a burial ground. We felt that we could not allow the dead bodies of those who had died from cholera to be shipped away to any great distance without serious danger to the public. We found that the islands adjacent to Grosse Isle were rocky and not suited for burial purposes, and we had this other idea, that the two islands adjacent to Grosse Isle should be used in the interest of the living. We feel that there should not occur in Canada such scenes as were witnessed in New York within the last few weeks. We feel that our great liners should not be made pest-houses, and that our friends who cross the ocean should not be confined for weeks in those ships with a pest in the hold, in the forecastle, and throughout the ship, rendering them liable to infection. We ask the Government that these two adjacent islands should be used, one for the purpose of placing suspects on, the other for the purpose of placing those who are not affected at all, and that Grosse Isle should be used solely for those suffering from cholera or those other diseases against which we wish to guard the public. We are told that there is good accommodation upon Grosse Isle. There are there the remains of old buildings that were used in 1848 for people suffering from typhus. I say they are not buildings in which it is proper to place people who come across the ocean, and that the Government should not hesitate at any expense to put up proper buildings. What is the expenditure of $100,000 or $200,000, or half a million dollars, if it should be necessary to protect the public ? But it will only take a very few thousand dollars to protect the lives of our citizens when they are obliged to be detained in quarantine. Money is no object in comparison with the lives of the people of Canada, and I am surprised that such an argument should be used against the proposition of this committee. I move that the clause be adopted.

The motion was agreed to, and the report as a whole was adopted.

DR. BRYCE moved that a copy of the report be sent to the Minister of Agriculture.

The motion was agreed to.

The report of the Nominating Committee was then presented.

The following are the officers elected for the ensuing year :—

President—Charles Sheard, Toronto.

Vice-Presidents—Ontario : J. Wishart, London. Quebec : F. J. Shepherd, Montreal. Nova Scotia : A. G. H. Lindsay, Halifax. New Brunswick ; J. W. Daniel, St. John. Manitoba : H. H. Chown, Winnipeg. North-West Territories : Geo. Kennedy, Fort McLeod. Prince Edward Island : J. McLeod, Charlottetown.

Local Secretaries—Ontario : W. Waugh, London. Quebec ; H. E. Desrosiers, Montreal. Nova Scotia . A Mason. Halifax. New Brunswick : M. MacLaren, St. John. Prince Edward Island : F. B. Taylor, Charlottetown. Manitoba : J. M. Mibray, Portage-la-Prairie. Brit. Columbia : J. A. Lefebre, Vancouver. North-West Territories : R. B. Cotton, Regina.

General Secretary—H. S. Birkett, Montreal.

Treasurer—W. H. B. Aikins, Toronto.

TREATMENT OF PULMONARY TUBERCULOSIS.

DR. J. E. GRAHAM read a paper on the above subject. (*See page* 253.)

Discussion.

DR. L. C. PREVOST—I am very sorry to have to follow Dr. Graham on such an important point. He has covered the ground in such a masterly way that I regret to have nothing else but congratulation to offer him. I could not help, when I was listening to him, making a remark which will perhaps lead you to think that I am a pessimist, and although I really feel young, notwithstanding I have had twenty years' practice, I find that others older than myself agree with me that we are not much further in advance to-day in the treatment of tuberculosis than we were twenty years ago. Still it is such an interesting subject that every medical man must make it the aim of his studies, considering so many things have been said of tuberculosis and knowing that so many things will be said of it in the future. We are not surprised therefore to find such an interest taken in the subject when we know the mortality caused by the disease. We know, for instance, that four out of every five persons who die are cut off by tuberculosis, and it is no wonder that we study the disease so carefully. Lately attention has been called too much to the agent itself rather than to the patient.

We have devoted too much attention to the disease when we should have looked carefully upon the patient. As has been said before, we have to treat tubercles, not tuberculosis; but still I do not want to disparage the discovery of the bacillus, for it was through that discovery that we know to-day that the disease is infectious. And in all infectious diseases there are two aspects of the question. We must try to prevent the microbe reaching the patient, and when it has got there we must try to cure the patient. It is in the prophylactic treatment that the microbe comes into requisition We know that it comes from somewhere, and that it is in the sputum, and we have, in prophylactic treatment, to take into consideration the isolation of the patient and creating hospitals for consumptive patients. We should take care never to let the expectoration dry up, to see that it is disinfected or burned, and that the room where the patient is kept is disinfected. This is only one part of the prophylactic treatment. There is a germ, and wherever there is a germ it is necessary there should be a soil for its development. If we take care that the constitution is always in good health, I am sure that cases of tuberculosis will diminish in number. Whenever there is a good constitution, whenever we pay attention to the laws of hygiene and put our systems in a state of health, there is no room for the development of the bacillus. That is why we see descendants of those disposed to tuberculosis pulling through without that disease. We all look after the soil to see that it is kept in proper condition. When children are brought to us in their youth with rickets and diseases of the eye, then it is time to look after them and fortify their constitutions. Later on, when we meet with those predisposed candidates of tuberculosis, we should look after them. We recognize them by the æsthetic appearance of the body—red-haired, blue-eyed, white-skinned people, who are predisposed to tuberculosis. They should not be sent to boarding schools where they would catch diseases easily. They should be kept outside. If we pay attention to this we will do more by prophylactic treatment than by the therapeutic means at our disposal. Of course, it is not all. The disease will get into the lungs some time, and then the destruction will begin. But we must not lose sight of the agent altogether. The human body must be considered as a fortress. We have arms to meet the enemy in the field, but as soon as it is in the body, if we shoot at the microbe we run the risk of destroying the fortress. It is almost impossible at the very beginning to say how we must treat tuberculosis, because it depends on the evolution of the disease and so many conditions that it is almost impossible to give general rules of treatment. What we may say is this: if we expect to operate a cure, since we are talking of the cure of tuberculosis, it must be only at the incipient stage; later on it is too late. Therefore it is necessary that there should be an early diagnosis of the case. It is only thus that we can find out if there is an enemy in the place to be fought. Against this we have the old hygienic laws to be called into requisition. It is impossible that I should enumerate them. You know them just as well as I do, but if I wanted to sum them up I would only mention this—take care of the digestive system. See that the patient has good digestion as well as good nutrition. This is often forgotten. Give them cod liver oil; it is a powerful remedy, I know. An old medical man of forty years' practice has often told me that he cured more cases with cod liver oil than with any other remedy, but it was properly applied. Cod liver oil given while the patient is suffering from fever or in hot weather does no good, but only destroys the digestion. Let the patient live all summer in the country, and take methodical gymnastic exercise, and watch the lungs to see if there is any congested point and remedy it. The patient should always be well covered, but be careful not to be enveloped in three or four thicknesses of flannel. These are the general means that must be tried to cure consumption at the beginning. Later on, when there is much fever and destruction of the lungs, it is too late. We must not expect to cure consumption. There are exceptions, but they are not dependent upon the therapeutical means put at our disposal. Sometimes we must cut the gordian knot that we cannot untie. Probably later on, surgery will come to our aid, and our grandchildren will witness the discovery of the philosopher's stone, as I may call it, in the healing of the disease.

Dr. Neilson, Kingston—Dr. Graham, in alluding to the treatment of tuberculosis, mentioned a great many of the remedies used. The arsenal is certainly very large, but after all, when one comes to find really useful remedies, the number is greatly reduced. It often occurs that these few cannot be applied. The patient is often reduced to that condition that very little relief can be given to him. Recently, within a few years, you have read of an agent which unfortunately has been rather tabooed and looked down upon by the profession at large, when really I do not see why it should be, for after all we should not despise any useful method of treatment. I allude to hypnotism. Of course, no one pretends that hypnotism can cure. I do not propose it as a curative agent in those cases, but in many instances of tuberculosis hypnotism is very useful. I shall, if you will permit me, give an instance in my own practice. Fortunately I have very few tuberculous patients to attend. Mine is a military practice, and men are not enlisted unless they are in a good state of health and strong. However, in one instance a trumpeter became consumptive. He had been ill for two years, and he was in such an advanced stage of consumption that I expected his death within two months. His digestive powers had been destroyed, he had occasional hemorrhages, and he could not sleep without opiates. He suffered pain to such an extent that I did not know what to do to give him relief. That was two years ago. In those days hypnotism was being written up in our medical papers. I thought it would be of assistance to him if he could procure sleep and rest. I attempted to hypnotise him. He consented very readily and he was glad to have any experiment tried to relieve him. To my surprise he was readily hypnotised. He had not slept without an opiate for some time, or for more than a couple of hours a night, bnt that very night I procured sleep, and he slept six or seven hours. He declared that he had not slept so well for months. I continued this hypnotic treatment, without any medicine whatever, for a fortnight. The man had been in bed for six weeks. At the end of that fortnight he could get up and walk. His digestion had returned to a certain extent, and there was a marvellous improvement in his appearance and particularly in his feelings. There was no possibility of his recovering eventually, but he was happy and contented. I calculated that the man would have been in his grave very soon after I began the treatment. Three months after that the man was well enough—he was a trumpeter—to go about, although it was early in April, and even to use his trumpet. I permitted him to do so to strengthen the lungs. It could not do him much injury. He continued that way for six months, when I was obliged to leave for Europe. After I left he became much discouraged, because I could not continue the treatment, and he died of hemorrhage in August. I commenced the treatment in January. I merely mention this as a palliative means of treating patients under special conditions by means of hypnotism. I am glad to see that hypnotism has been investigated by a committee of the British Medical Association, and has been favorably reported upon, as it should be, as a means worthy of being considered by the profession at large.

Dr. Bulkley, New York—There is a certain mode of taking milk which would be beneficial—I suppose some of the gentlemen here know it by practical experience. In connection with consumption it will often help us greatly in getting milk into the system, and thereby fortifying the constitution against the disease, when we could not do so otherwise. My theory is with regard to taking milk that it should be taken absolutely alone into an empty stomach and kept there until it has disappeared without digesting. We know the difficulty experienced by consumptive patients in digesting, and we know that a similar difficulty presents itself with other patients. The system which I am about to recommend has met the approval of everyone that I have spoken to about it. I believe that milk can be absorbed into the system through the stomach, if it can be got in at the right time, without digestion. What called my attention to it first was an injection of milk into the veins, showing that it could be got into the system without curdling. We know that if we put milk under a microscope it appears very like the blood. The question is how to get milk into the system so as to be absorbed in its primary condition without having undergone curdling. Of course if it once becomes curdled the solid matter is lost. We know that half an hour or an hour before a meal—certainly three or four hours after digestion—physiology tells us that the stomach is alkaline. If now we can get the milk into the system at that time and preserve it alkaline, it is absorbed absolutely and immediately without any process of digestion by the stomach. If the stomach, however, has become acid in any way the milk becomes curdled. If by any chance there should be a crumb of bread or anything, however small, that will excite the gastric juice; the entire mass of milk becomes curdled. If by any chance you can get it in at the proper time and preserve it there, it is absorbed immediately. My claim is verified by my own use of it. I cannot take milk with my meals. If I take a bit of cracker with milk I am sure to have a headache, and that has been my experience for several years. I have for some years been taking a quart of milk a day. I take it in the morning and I take it at bedtime. If I take it too soon after meals it curdles. If I should take it with a crumb of bread in the morning it has an ill effect. I have given it to many of my patients, and have mentioned it to many physicians, who have told me afterwards that it has been of great benefit to them, and I cannot forbear mentioning it here.

Hon. Dr. Sullivan—Has the temperature anything to do with it?

Dr. Bulkley—It has. I found that if I took the milk from the refrigerator it did not do so well, so I put it on the stove and bring it to a blood heat. It should not be so warm so as to get a scum on it. You must take it without even a crumb of bread with it. Sometimes after dinner, if I feel that my dinner has not been digested, I take a little soda and water. When carbonic acid is disengaged I take my milk. If I fail and get the milk curdled, I have a headache.

Dr. W. W. Dickson—How long have you found it necessary to retain the milk before it is digested?

Dr. Bulkley—It does not digest. It takes about twenty minutes to absorb. I believe if the milk is warm and the condition of the stomach perfect it is absorbed. My instructions to patients are to take it an hour before a meal and not less than half an hour. If you have taken a hearty meal there should be an interval of four hours, and if you take it about half an hour before a meal it is satisfactory.

Dr. Playter—A good deal has been said about sipping milk; should it be taken in that way?

Dr. Bulkley—I believe that sipping milk does harm. It excites the flow of the saliva. I have known the picking of the teeth after sipping milk to curdle the milk, and it has taken half an hour to digest. Now, in sipping the milk you always take more saliva than is necessary. I am not more than a few seconds drinking it. In the evening I take it at eleven o'clock, and if I forget it I feel troubled. At night I take three goblets, one at eleven, another at half-past eleven, another at twelve, and then I go to bed. That is my routine.

Dr. Dickson—Do you fortify the milk with anything?

Dr. Bulkley—No; I take the milk pure. I have submitted this matter to several people. I submitted it to one doctor, who agreed with me that there could be no question that the milk could be absorbed in the manner I have described.

Afternoon Session.

Dr. T. Johnson-Alloway read a paper on *The Dependence of Abnormal Eye Conditions upon Uterine Disease.* (See page 335,)

Discussion—**Dr. Dupuis** asked Dr. Alloway to explain his method of shortening the round ligaments.

Dr. Alloway minutely described his method, and said that he had reported last year a series of 42 cases, that since he had done almost as many more, and that the results were so satisfactory that he would continue to perform the operation in all cases considered by him suitable. Dr. Alloway also said Dr. Buller had been jointly interested in this subject with him, and that Dr. Buller's views and experience would appear in the publication of the paper.

THE MEDICAL DEFENCE ASSOCIATION OF ONTARIO

MEET THE MEDICAL COUNCIL, WITH SATISFACTORY RESULTS TO BOTH.

At the request of the President of the Medical Council a meeting was held between the Legislation Committee of the Council and a committee of the Medical Defence Association, in the Council's hall, corner Bay and Richmond streets, Toronto, on the 29th September, with the view of adjusting the differences that exist between the Defence Association and the Council.

There were present on behalf of the Council: Drs. Fowler, Williams, W. T. Aikins, Geikie, Bergin, Johnston, Britton, Day, Thorburn and R. B. Orr; the following members of the Defence forming its executive: Drs. Meacham, Sangster, Armour, White, Coburn, McLaughlin, Comfort, Eastwood, Rutherford, Hillier, Starr, Jessop, Hutchinson, Hamilton, Corbett, Bingham, J. Gunn and Mitchell. Dr. W. H. B. Aikins, editor of *Ontario Medical Journal*, and Dr. Wylie, M.P., were also present.

In opening the meeting, **DR. WILLIAMS** said that suggestions for a settlement of the differences between the Defence Association and the Council would be entertained by the Legislation Committee.

DR. FOWLER said he had called this meeting together on his own responsibility, to see if a settlement of the differences could not be agreed upon, and if an agreement was come to, it would be carried into effect. On enquiry, he had found much dissatisfaction throughout the Province at the action of the Council on certain matters. He called on the meeting to elect a chairman.

On motion of Drs. McLaughlin and Armour, Dr. Fowler was elected chairman.

DR. MEACHAM wanted to know how far the Council was prepared to meet the Defence Association on the lines of the bill he had presented at the last session of the Legislature? If the Association received certain concessions, they would be willing also to concede certain points.

DR. MCLAUGHLIN said there were two points on which the

Defence Association were determined to have redress; these were, the reorganization of the Council on a more representative basis and the abolition of fees. They also wished the power of determining contested elections taken out of the Council's hands and students' fees reduced. They wanted to know how far the Council were prepared to meet them on these matters.

DR. WILLIAMS replied, defending his action and the Medical Act.

DR. WHITE—Does the legislation committee consider the present Medical Act perfection?

The PRESIDENT—No.

DR. WHITE—Then how far will you go towards remedying these imperfections?

DR. WILLIAMS said there were differences of opinion as to what the so-called imperfections were. With regard to representation on the Council, the Legislature had forced representatives on it who were not wanted. The Council was unanimous in the opinion that there were schools represented that had no right to representation. The universities and teaching bodies should be represented.

DR. COMFORT said he was willing to compromise on other matters, but there was one thing that must be wiped out—that was the penal clause relating to the non-payment of fees. He therefore moved, " That this meeting is decidedly of the opinion that section 41 A and the sub-sections thereto of the Ontario Medical Act should be repealed."

DR. WHITE seconded the motion, and said the Defence Association would never rest until this clause was struck out of the Act. (Applause.)

DR. HUTCHINSON said he had been sent to the Defence Association meeting from London to express the firm resolve of his fellow-practitioners, to the number of forty-nine, to have the whole fee and all such regulations abolished. (Applause.)

DR. BRITTON wanted to know if the Defence Association thought any fee necessary. The old method of collecting was ineffectual. He thought it well to wipe the fee out altogether, but the Council was in debt and he didn't see how it could do without it until it was out of debt. When the property had risen in value the fee would not be necessary.

Dr. Sangster said the members of the Association were unanimously of the opinion that this fee was not necessary, but that the legitimate receipts of the Council were sufficient for its support. The Defence Association advocated the selling of the real estate in which the Council had speculated.

The property could be sold for	$100,000
There was a debt of	60,000
This would leave	$40,000

This would secure a lease in perpetuity of similar premises to those at present occupied, or even those in the present structure, if properly disposed of.

Dr. Williams said the property might have been sold some years ago for that amount, but not now, and there was no certainty the money would find profitable investment. The method of collecting the fee was considered by some as harsh, but the method of dealing with murderers was harsh, and so was the method of dealing with thieves harsh. [Angry protests and cries of "Order," "Order."]

Dr. White pointed out to Dr. Williams that he apparently did not know the facts he was attempting to discuss. The amount of the fee was not in question at all. It was its legality and necessity that was disputed.

Dr. Sangster said Dr. Williams forgets the fee was imposed without the consent of the profession, and is spent by a Council outside our control. Give us a representative Council and it will be given all the money it wants. (Applause.)

Dr. Armour, in discussing the legality and necessity of an annual fee and the retention of section 41 A for its collection, reviewed at length the financial statement issued by the Council, showing from it that the necessity of the fee had been created by the Council by its investment in unnecessary real estate. In estimating the cost of carrying the building, he showed from the financial statement that—

The building had cost	$96,390
After deducting the mortgage of	60,000
The investment account is	$36,390

The interest on investment and mortgage at five per cent. amount to	$4,819
In addition to the interest account, the cost of maintenance for the year, embracing caretaker. elevator-man, commission on rents, fuel, water, gas, insurance, repairs, taxes and legal service, was	4,510
Making a total yearly cost of carrying the building	$9,329
Now deduct from this the income from rents	4,099
Making the net cost of carrying the building last year	$5,230

It was estimated that when the building was all rented the income from it would be $7,000, but as the cost of maintenance for the past three years had increased about 36 per cent., the income in the same time from rental had not increased even to 6 per cent. Even if the estimated rental was obtained, the cost of maintenance would so far exceed it, that to keep it up would be much more expensive than at present. Referring to the receipts and expenditure of the Council for the past year, by omitting the annual fee and real estate speculation (both of which were deemed an unnecessary incumbrance), he drew attention to the fact that the receipts alone from registration and examination fees amounted to $12,872, while the necessary expenses for the year (omitting building account) were $7,441, leaving, to provide building accommodation, $5,431, one-fifth of which should be ample for that purpose. The net cost of carrying the building, according to the statement of ex-President Williams in his annual address, was $302! while the financial statement of the Council shows it to be $5,232!! The Council has sent this president's address containing this false statement, as well as others, three times to each member of the profession and at the profession's expense. It ill becomes a person falsifying figures in this reckless way to presume to lecture those who honoured him with their confidence, as their representative; or the members of the Defence Association, upon the principles of honesty, regarding the payment of an annual fee, for him to squander in a useless speculative enterprise. The Council should free itself of its real estate, even if it did not bring more than the face of the mortgage, and save the $5,000 a year expended in carrying it. This would remove the necessity of the recent resolutions of Dr. Williams' Council about the annual fee, and also permit the lowering of the students' fees.

DR. WILLIAMS said he had not the opportunity of referring to the books of the Council when preparing his address. The figures given he had received from others (the registrar and treasurer), and he had uttered them, believing them to be correct. This fee was like any other honest debt, and honest men pay their debts. (Cries of " Order.")

A VOICE—" It is neither a legal nor an honest requirement, and Dr. Williams knows it! "

DR. McLAUGHLIN said he was sorry Dr. Williams had seen fit to brand certain members of the profession as dishonest because they differed from his views and had refused to be assessed by a Council over whom they had no control. Less than 100 men control the election of 14 members; the other 12 members are elected by the 2,800 men throughout the Province. Could such a flagrant injustice stand the light of day for one moment. He would refuse to pay a farthing of fees until the Council was made more representative. If the profession were given control of the Council they would gladly pay the fees, whatever they might be. In addition to taking fees from the profession against their will, the Council exacted $100 from every boy or girl coming before them for registration, whereas the cost for the same in New York was only $25, and in England $35. The Council was extravagant. It had spent illegally $96,000 in the building, on which there was a $60,000 mortgage. The $36,000 investment would have furnished all the necessary building accommodation for years to come. The members of the Council had paid themselves, out of the funds, $3.50 a day hotel expenses illegally, while enjoying their own beds or being guests of friends in the city. A journal had been subsidized, and will likely be run in the interests of the Council, with the funds of the profession. The Medical Defence Association would never consent to the fee being enforced in the obnoxious way attempted. The Council had taken into their hands a law, the enormity of which was not equalled by any other society in the Province or elsewhere.

Dr. Aikins, the treasurer, said the finances of the Council were now in better condition than they had been for many years. Referring to representation of schools in the Council, he said the schools had vested rights and would not give them up without a struggle.

Dr. Bergin thought it was a great pity their dirty linen should be washed in public. The members of the Defence Association should consider that perhaps the members of the Council were actuated by honest motives. The building had been handed down to the present Council as a legacy from former ones, some of whose members were raising the outcry against it to-day. The Council was trying to meet the views of the Defence Association. Referring to the charges of extravagance, he said that coming from those who made those charges they were unparalleled nonsense, for those people never paid a cent to the support of the Council. (Cries of "Order," "Order.")

A **Voice**—"No, nor never will to such a Council."

The Defence Association being asked, then set forth their demand as follows:—

1. That section 41 A be repealed.

2. That the matter of annual fees be held in abeyance until the profession is properly represented in the Council.

3. That the universities with medical teaching bodies, viz., Queen's, Toronto, Trinity and Western University, have one representative each and the profession seventeen.

4. Protested elections be referred to the county judge.

The meeting of the joint committees then adjourned.

The Legislative Committee met immediately afterwards and agreed to the following:—

1. We consent to 41 A remaining in abeyance until after the next election and the electorate pronounce upon it.

2. We do not consent to suspend section 27, but will still rely on the honour of the profession to pay the fee.

3. We will favour adding five additional territorial representatives, making seventeen.

4. We will not object to institutions which neither teach nor grant degrees being deprived of representation.

5. We are in favour of protested elections being referred to

the senior county judge in the division in which the election took place.

These were formally handed to a committee of the Defence Association for that body's consideration, and the meeting adjourned, bringing results which make it the most important in the history of medicine since the formation of the Medical Council.

CORRESPONDENT.

Selections.

Treatment of Leg Ulcers.—Morton (*American Lancet*, August, 1892) describes the method of treatment he pursues in all ulcers of the leg, except tubercular and malignant. Any complications, as excessive discharge, exuberant granulations, etc., are treated in the usual way. The method is as follows: The surroundings of the ulcer or ulcers are thoroughly cleansed with soap, brush and water, and, if necessary, shaved. The soapsuds are then washed away with simple water, and the parts douched with 1 to 1000 sublimate solution if the ulcer is foul, inflamed, or otherwise manifestly septic. If these conditions are absent the bichloride may be omitted. Next, the ulcerated surfaces are subjected to the powerful but harmless antiseptic action of a spray of full strength (15 volumes) peroxide of hydrogen solution. Pouring on the agent is almost as efficient, but very wasteful. If the spray is employed, however, it is essential to use an atomizer whose every part is made of hard rubber, as the powerful oxidizing qualities of the solution will almost immediately destroy any metallic parts with which it may come in contact. The ulcer, having been thus sprayed until active effervescence ceases, is then gently washed off by a stream of simple water, or by a pledget or mop of absorbent cotton saturated with the same. This carries away all detritus loosened up by the action of the peroxide. Next, the ulcerated area and one inch of the unaffected surrounding skin are covered with strips of "Lister protective," one-half inch broad, overlapping each other about an eighth of an inch. The "protective" should be made of very fine silk fabric coated on both sides with a mixture of copal varnish, dextrin, and carbolic acid, after the original formula of Lister, and supplied by the manufacturers of antiseptic goods. Our object in using the protective is to keep the ulcer moist and to prevent friction and irritation at all times and the tearing away of reparative material at dressings, as well as to furnish a guide to the epithelial cells in their excursion across the granulations. It also acts as a capillary drain, carrying the secretions drop by drop into the edge of the strips, where a suitable dressing absorbs and sterilizes them. The strips of protective should first be soaked in strong (1–1000) bichloride solution, and then washed in simple or cold boiled water before applying to the wound; this precaution being necessary, as the strong antiseptic probably kills or inhibits the growth of new-forming granulation and epithelial cells, and thus retards healing. Protective quickly spoils in solution, so must be soaked and then sterilized immediately before using. A dressing of gauze or butter-cloth, which has been wrung out of 1–1000 sublimate solution, is then folded in six or eight layers large enough to overlap the protective strips several inches in all directions, and is neatly put on without creases or other irregularities. This serves to absorb and disinfect the discharge that may be transmitted into it from beneath the protective. Experience in each individual case will determine about how many thicknesses of gauze will be required for this purpose; but the less used, consistent with attaining the object desired, the better. Finally comes the bandage. This is to keep the dressing in place, give the vessels support, and to prevent or relieve œdema. Few things are more unsatisfactory than the ordinary leg bandage that is put on with reverses upon the leg, especially where the patient is compelled to stand and work upon the member during the progress of treatment. No matter how expertly it may be applied, the ordinary bandage will in a few hours or even minutes after its application be found in festoons about the ankle. On the other hand, a bandage that I have been using for the past five years will not only remain just as applied for days or even weeks, and be absolutely comfortable to the wearer, but also permits the employment of the fixed antiseptic dressing for leg ulcers while the patients pursue their usual occupations—no matter how arduous—almost unconscious that their formerly disabling disease is still present. This bandage is applied to the foot and ankle in the usual manner until that point immediately beneath the calf is reached, where reverses would usually be begun. Here, however, the difference becomes apparent; no reverses are made, but the two edges of the bandages are kept equally tight, and it is thus wrapped around the limb, practically allowing it to guide itself, the surgeon only being careful to keep the edges of the roller equally tense as it unwinds. Thus it will be found that the bandage will mount upward around the calf in a spiral manner, take a circular turn around the leg just below the knee, then descend again by a downward spiral around the calf, again mount upward as before upon the opposite side, slightly overlapping the previous turn, and so on until finally the leg will become enveloped in a bandage that might be called a figure-of-eight of the calf. It should be put on as tightly as the patient can comfortably bear, smoothly, and care should be taken that no points are left without being supported by at least one of the turns. A muslin roller, six yards long and three inches wide, will be found about the proper dimensions for this bandage. This method of giving support to the circulation of a leg is equally applicable even after the ulcer has been cured, or where swelling or varicosity exists independently of ulceration. Patients can be readily taught how to apply it, and usually give it preference to elastic stockings or rubber bandages. My experience with these latter has not been favourable; the stockings are very good when new, but soon decay, stretch, and become useless as a support, while the rubber bandage retains perspiration and often gives rise to intense irritation. Not every patient is capable of wearing either, and all, in my experience, much prefer the bandage that has been described when it is properly applied. A bandage of German manufacture can now be purchased, in which fine rubber threads run in the length of cotton webbing, which can be similarly applied and is very comfortable and satisfactory. However, it is not cheap and is prone to decay.

Re-dressing.—Until the parts have been rendered odourless, free of all irritation, and aseptic, it is advisable to re-dress in the same manner every day, or at furthest every other day; also until these conditions have been secured, to use the bichloride of mercury solution as a douche. When, however, asepsis has been attained, strong antiseptics should be discarded in re-dressing, as they retard healing; simple water is then to be used instead. Subsequently the dressing should be renewed every second day if the person is using the extremity, but if he is in bed dressings need not be used so frequently after the discharges have become scanty.

In this, as in every other method of treating leg ulcers, if the patient will consent to remain in bed or reclining, healing takes place very much more rapidly, but under the present system the number of instances where confinement is essential for healing is exceedingly small. With this protective and gauze dressing I believe that Nature's method of healing is best assisted, and that under the conditions of moderate moisture and freedom from irritation—both traumatic and septic—is secured as rapid healing as can ever be anticipated. As I never expect surgery to evolve a method of uniting simple fractures more rapidly than at present, neither can I look forward to the cure of the great majority of leg ulcers more rapidly than under the favoured dressing—that is, they fill up to the level of the skin, and are covered up with epithelium without waste of reparative material just as rapidly as Nature can possibly furnish it, the time required usually being incredibly short.

Antiseptic Treatment of Pulmonary Phthisis.—"Antiseptic Treatment of Pulmonary Phthisis by Gaseous Inhalations of Spirits of Turpentine with Iodoform or Iodol" is the title of a paper read by M. Delthil before the Académie de Médecine de Paris. The conclusions he drew are as follows. In the treatment of pulmonary phthisis (1) it is physiologically indicated to endeavour to obtain direct asepsis of the diseased lungs by means of non-poisonous and antiseptic gaseous inhalations; (2) the volatile oils of turpentine with iodoform or iodol seem to fulfil this indication; (3) the absorption of these drugs is proved by the presence in the urine of iodine; (4) under the influence of these inhalations the secretion and the cough diminish, the appetite improves, and the morbid process abates to such an extent that recovery often takes place in apparently hopeless cases; (5) this treatment does not prevent the use of the various hygienic, dietetic and remedial measures indicated in this disease. The mode of using the inhalation is as follows. In an inhaler of the capacity of one litre he places this mixture: essence of turpentine, 350 grammes; essence of lavender, 100 grm.; iodoform or iodol, 5 to 10 grm.; sulphuric ether, 20 grm. This may be inhaled as much as four hours in the day in seances of fifteen to twenty minutes. It should be used morning and evening and several times during the day, especially after walking in the open air. The inhalation may be warmed in order to increase the evaporation by placing the inhaler in a warm bath of 30°C. In order to increase the amount of iodoform disengaged, a gramme of iodoform or iodol may be added every second day. The turpentine dissolves the iodoform or iodol if a little ether is mixed with it; the commercial spirits of lavender deodorises the iodoform.—*Revue de Thérapeutique Médico-Chirurgicale*, Sept. 15, '92.

The Healing of Tuberculosis.—Dr. William Osler refers to recent studies which have shown that, in a considerable proportion of the bodies of persons dying of all diseases, quiescent or healed tubercular lesions are found in the lungs; which justify the German axiom "that in the long run everybody has a little tuberculosis." The following conditions at the apices seem to signify healed tubercular processes: (1) Thickening of the pleura, with subjacent induration of the lung tissue. (2) A puckered cicatrix at the apex, depressing the pleura, which here may or may not be thickened. (3) Puckered cicatrices, with a cheesy or cretaceous central nodule, and with scattered tubercles in the vicinity. (4) Quiescent cavities surrounded by fibroid tissue and communicating with bronchi. Osler reviewed the records of one thousand post-mortem examinations in reference to this question. In 216 cases death was caused by pulmonary tuberculosis. Among the remaining 784 cases, 59 were persons dying of other diseases, who presented undoubted tubercular lesions in the lungs. In 27 per cent., in 400 bodies, Bollinger found evidence of the healing of tubercular lesions in the lungs. He had heard the statement in Paris, that of the bodies examined in the morgue, the majority of which are of suicides or persons accidentally killed, nearly 75 per cent. present evidences of old tubercular lesions. We may say that in one-fourth of all persons infected the disease is never manifest, but remains local, and the lesions gradually heal. In another fourth of those attacked local signs developed, but the physiological resistance of the tissues is sufficient to arrest the process. The remaining 50 per cent. of those infected fight for months and years, losing battles until the final defeat comes. Once infection has occurred, the chief indication is to place the person in surroundings favourable to the maintenance of the maximum degree of nutrition. The influence of environment has never been better illustrated than by Trudeau's experiment. Inoculated rabbits confined in a dark, damp place rapidly succumbed, whilst others, allowed to roam at large, either recovered or had slight lesions. The very essence of the climatic treatment of tuberculosis is improved nutrition by change of environment. Fresh air and sunshine are the essentials, with which in comparison altitude is of secondary importance.—*Climatologist*, April, 1892.

Injections of Testicle Juice in Tuberlosis.—Espagne and Pourquier (*Nouv. Montpellier Méd.*, June 4, 1892) have tried hypodermic injections of testicle juice in a case of pulmonary tuberculosis. The patient was a girl, aged 18, without known hereditary antecedents, but of lymphatic temperament. There was harsh breathing nearly all over the chest, and dry crackling at both apices, especially on the left side and at the back. The girl suffered from amenorrhœa and profuse night-sweats, and was wasting steadily. The testicle juice was prepared as follows: 50 grammes of testicle substance (from a bull-calf) were macerated for twenty-four hours in 50 grammes of sterilized glycerine. This preparation, after filtration first through paper and then through a Chamberland filter, gave a clear liquid almost as transparent as distilled water. The injection of a Pravaz syringeful of this liquid caused considerable pain, but was followed by a fall of temperature and reduction in the pulse-rate. The authors, however, are doubtful whether a repetition of the injection will be permitted.—*British Medical Journal.*

Lupus by Inoculation.—J. Jadasohu (*Virch. Archiv.*) reports the following case. In consequence of an injury an ulcer developed on the finger-tip of a butcher. The ulcer resembled, though not exactly, one of tuberculous origin,—shallow floor, thin, partly undermined, irregular border, feeble granulations, numerous points of suppuration. Later a typical lupus patch developed on the forearm and another on the upper arm. The histological examination disclosed the tubercular nature of the lesions, though but few tubercle bacilli were found. In a second case, the lupus developed on the site of a tattoo, and coincided exactly with the lines of the tattoed design. The operator, it appears, was phthisical, and had used his saliva in mixing the colours.—*Jour. Cut. and Genito-Urinary Diseases,* April, 1892.

Tubercular Arthritis in a Cat from drinking Tuberculized Milk.—C. Nocard fed a cat and her four kittens with milk in which he had mixed a pure culture of tubercle bacilli. The four kittens died within from seven to seventeen weeks, exhibiting confluent tubercular lesions in the intestines, lymph glands, spleen and liver. The old cat first took ill after two and a half years with a severe inflammation of the knee-joint, which contained a considerable quantity of floculent and purulent synovia, in which numberless tubercle bacilli were found by Ehrlich's method. The arthritis was tubercular in origin. The cat died and tubercular lesions were found in the spleen, the liver and the lung, evidently of older date than the joint lesion.—(*Centralblatt für die gesammte Therapie,* May, 1891.

On the Danger of Transmission of Tuberculosis by means of Diseased Milk.—From the annual report of M. Alexandre on epizootic disease in the Department of the Seine during the year 1891, it appears that 46 animals were killed on account of bovine tuberculosis—that is about 20 per cent. of all the milch cows in the stables of the Department. In the face of this fact, the departmental veterinary surgeon declares his belief that it is impossible to charge the numerous deaths from human tuberculosis in the Department of the Seine to the milk and flesh of the animals consumed. M. Alexandre is furthermore of the opinion that it is shown that the milk is contaminated only to the same extent as the mammary glands are themselves infected, but in no case has tuberculosis of the mammary glands been found; further, the flesh of animals suffering from general tuberculosis is not allowed to be sold for food.—*Revue de Thérapeutique Médico-Chirurgical*, Sept. 15, '92.

A Case of Suture of the Lung.—Guermonprez of Lille (*Le Bulletin Médical*, Aug. 10, '92) says that the peripheral portions of the lung bear traumatism well, provided it is effected carefully and pretty rapidly, and that this fact justifies the attempt to pass superficial sutures. The case in question was one of pyo-pneumothorax following pleurisy in a man aged 18. Six ribs were resected, laying open the whole cavity, when the orifice of the broncho-pleural fistula was readily found, as it remained open during both inspiration and expiration. The lips of this opening were immediately sutured with catgut. The operation was finished in the ordinary manner, the dressing being applied sufficiently firmly to keep the cut ribs in position. Thirty-eight days after the operation the wound was completely healed. After a tardy convalescence the patient resumed his business, and has remained in good health up to the present time, fourteen months after.

Cyst Containing Worms.—Dr. Martinez was consulted by a woman, aged 50, in good health, who had a tumour in the right thigh for three years. This tumour was about the size of a hen's egg, and was situated at the internal and middle part of that region. It was indolent and a little hard, without any change in the colour of the skin or local temperature. M. Martinez diagnosed a cyst, and prescribed an ointment of iodide of lead. Three days afterwards, being called to see the patient, who complained of severe pain, he found the skin gangrenous over the summit of the tumour, and on making an incision he extracted eleven *ascarides lumbricoides* at least ten centimetres in length and of the size of a pen handle. The wound healed in twenty days. The author, on searching the literature of the subject. has not found any similar case.—(*Independacia de Barcelona et Sigla Medico; Lyon Médical*, July 13, '92.)

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DR. WRIGHT'S ADDRESS.

The 60th session of the Medical Faculty of McGill University was opened on the third day of October by an address from Dr. H. P. Wright of Ottawa, which we publish in this number. Dr. Wright's remarks on the different subjects he dealt with in his able address are well worthy the careful perusal of all our readers, especially of those who are graduates of the University. After sketching the marked success of the Medical Faculty, he touched upon a subject that has been agitating the minds of many graduates. We refer to the founding of a Howard memorial.

Dr. Wright has well said that students from all parts "are anxious to do something to immortalize the memory of a man who, from his boyhood till his death, as student, demonstrator, teacher and Dean, performed every duty with a zealous singleness of purpose and success that characterized the individual and made Robert Palmer Howard respected and beloved." The endowment of a chair of Pathology, Dr. Wright added, would be an especially fitting memorial to a man, as Howard was, especially interested in this subject. He was always anxious that it should be strongly represented in his University. Now that Dr. Adami of Cambridge, a distinguished pathologist, is appointed to the chair, we believe with Dr. Wright that no more fitting time could be chosen for founding a Howard memorial in the shape of a pathological endowment than the present.

The members of the Faculty of Medicine of McGill are deeply indebted to Dr. Wright for directing the attention of the profession and the public to the needs of pathology. The establishment of a great pathological institute in this medical centre will be the means of doing untold good for not only the University and city, but also for the country at large.

CURES FOR ALCOHOLISM.

There appears to be a "boom" just at present in cures for alcoholism. It is evident that Dr. Keeley is not to be allowed a monopoly of this paying business. Recently we received a marked copy of *The Evening Sentinel Review*, of Woodstock, Ont., containing an account of a visit paid to Alpena, Mich., by the editor, and of what he saw there of "the results of the medical treatment of drunkenness as practised by Dr. J. D. Dunlop." Rather a reprehensible practice. The writer goes on to tell us that the investigation was entered upon as a matter of personal interest. We would be glad to know what made the interest personal, but our curiosity is not satisfied. The article occupies rather more than two columns, and everything is fully described, with the trifling exception that the form of treatment is not even mentioned. Towards the end of the article, casual mention is made of the fact that the Dunlop system is being introduced into Woodstock.

In another newspaper, *The Mail and Express*, of New York, a description is given of the Morrell Liquor Cure. This is apparently managed by the newspaper company, and is given free to all who apply. It is endorsed by the City Mission, and extensively advertised at their services. In this case we are told that the *cure* consists of an amber-coloured fluid which is injected hypodermically into the arm of the patient, but nothing more.

These two newspapers say they have thoroughly investigated the *cures* and found them all that can be desired. These positive statements of a cure in all cases, or at least in nearly all cases, and no relapses, make the skeptical enquirer ask how it is that there are any drunkards left.

Warning has been taken from the fate of Keeley's bichloride of gold, and no hint is given as to the probable composition of these remedies, nor are any excuses given for keeping them secret. Keeley felt it incumbent to apologise and give reasons for not taking the medical profession into his confidence, but these followers do not even think that is necessary. Having secured the backing of the Mission and Temperance Societies, they evidently feel secure that their good work will be blessed. Keeley's motor has passed away, Keeley's gold cure is passing, and soon will these imitators also pass into oblivion.

THE INSPECTORSHIP OF ANATOMY.

We regret to learn that M. de Lamirande has, without cause and for no special reason, been dismissed from the position of Inspector of Anatomy which he has held for the past nine years. During his tenure of office M. de Lamirande conscientiously and impartially carried out the law regarding the supply of material to the various dissecting-rooms. That he should be displaced without any warning and for no good reason does not reflect much credit on the present local administration. The parties interested in the carrying out of the Anatomy Act have not, as far as we are aware, been consulted at all in the matter, nor have any complaints as to M. de Larimande's administration been formulated from any quarter. The precedent is a bad one and offers no encouragement to the holder of any such public office to do his duty. Another public officer who has notoriously neglected his duty for many years still remains in office, for what reason no one can say. The new Inspector of Anatomy is a young graduate of one of the local medical colleges, and therefore identified with one medical school. We are informed that he is house surgeon in an institution which comes under the working of the Anatomy Act. He may be impartial, and we shall not offer an opinion at this early stage of his tenure of office, but the whole thing looks suspiciously like a job, the conditions which lead to favoritism being all present.

We regret to chronicle the death of Dr. George Ross, the Vice-Dean of McGill University and senior editor of this JOURNAL. In our next a full obituary notice will be given.

Yrs Faithfully

THE

MONTREAL MEDICAL JOURNAL.

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Original Communications.

OBSERVATIONS OF THE PROGRESS OF SURGERY IN OUR OWN DAY. *

BY DONALD MACLEAN, M.D., DETROIT.

The multiplicity of associations for the study and advancement of the many departments of science is one of the most striking and, I may add, most valuable features of the age in which we live. The marvellous improvements in the facilities for travelling have rendered this possible, so that surgery, not less than many other departments of modern science and art, is deeply indebted for its unprecedented advancement in our day, to the practical applications of that particular form of motion commonly called steam.

Not to do more than mention the production and dissemination of surgical literature thereby made practicable, the possibilities for personal contact and the interchange of opinions and experience, supplying and sustaining in ever-increasing degree the mighty stimulus of emulation, which have been secured to us through the beneficent power of steam, even we of the generation, who have seen and known all about it, sometimes I think fail to fully realize. Medical Associations as we have them, were not possible in former generations, and while many and various influences have combined to secure the unprecedented advance, which no one can deny that surgery has made in our day, my firm belief is that the union and communion between

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* Read at the meeting of the Canadian Medical Association, Ottawa, Sept. 22, 1892.

different men and different schools, and different nations, rendered possible by the means referred to, is one of the greatest of all the powers which have worked together for the development and improvement of this the most directly humanitarian of all the arts and sciences.

But, while claiming for such associations as the "Canadian Medical," the most unstinted credit as a means of advancement, I am far from being so certain that such functions as the one which your kind and generous partiality has accorded to me, are to be regarded as the most effective or profitable mode of using the time and energies of the members.

I am an ardent advocate of such meetings as the present one. The reading and discussion of original papers, the reporting of cases, the exhibition of instruments and specimens, the congenial gathering of ourselves together, sometimes from long distances, the recalling of old associations and the forming of new, the hospitable and convivial breaking of bread and drinking of water in each other's society, the after dinner speech and all that that implies, I approve of with all my heart.

But when it comes to didactic addresses even on surgery, and the progress, and the wonder, and the glory thereof, I am not quite so clear, unless peradventure, the orator happens to have the power, genius and courage of a Tait to electrify his audience and the whole profession with the originality and, at the same time, the reasonableness of his revolutionary views as to the best ways and means of teaching surgery; or, the no less impressive force and grace of a Hingston, by virtue of which the mental eye of the greatest of all medical associations is persuaded to open widely in amazement and delight, as a system of aboriginal surgery, practised in the wilds of far-off America, is unfolded in language not less remarkable for its simplicity and clearness than for its eloquence and pathos.

Happy, indeed, are the orators who can deliver, and the associations which have the privilege of listening to such addresses. In undertaking to speak of the progress of surgery in our own time, it will at once become obvious that on such an occasion as the present, it is out of the question to attempt to do more than mention a few of the more salient features of the theme as they happen to appear to the individual who, for the time being, has the floor.

To treat the subject exhaustively, or to any extent analytically, endeavoring to set forth in due form and in their proper order, chronologically or otherwise, the manifold steps and processes, and the parts played by different individuals, whereby the results in which we so much delight to glory have been attained, implies an effort transcendently beyond the most latitudinarian estimate of the scope and aim of my present duty. The utmost that I can presume to attempt on the present occasion is the presentation of a few of the thoughts suggested to my own mind by the deliberate contemplation of some of the changes in surgical thought and practice which have taken place during the generation to which we happen to belong.

You and I have been interested spectators of, and more or less active participants in, a great contest with enemies of our common humanity of the most malevolent and uncompromising character. The battle commenced long before our day, and without doubt will continue to rage long after we have individually been forced to lay down our arms and pass over to that vast majority which has preceded us. In the meantime, however, we pause for a brief space in the thick of the fight for the purpose of permitting one of the rank and file the opportunity of recording a few of the impressions upon his own mind, respecting the progress of events in that part of the eternal struggle in which you and he have had the great honour of playing some part, each one according to his ability, whether that be greater or whether it be humbler.

In attempting to explain the rapid progress of surgery in recent times, and summing up the most powerful of the agencies by which this progress has been effected, large credit has been accorded to two or three data, which certainly have borne a sort of pivotal relation to the whole subject. These are, first, the discovery of anæsthetics, the influence of which is unquestionable and incalculable ; the second is, in a word, bacteriology, of which it may be said, I think, that the influence for good has been practically infinite; the third I have already mentioned, viz., steam, and of this agency I think it may be truly said that its influence has been at least as great as that of any other, not excepting even those just mentioned.

There are at least three other agencies of a general character whose influence has been, in my opinion, very great, although I don't think that they have always received the recognition to which they are justly entitled.

The first of these might be described as "Our inheritance by birthright." I refer to the great stimulus given to surgery by the life and works and teachings of such men as Sir Astley Cooper, Sir Benjamin Brodie, John Bell, the true progenitor of ovariotomy and all that that implies, Liston and Syme, Langenbeck and Desault, and many others who adorned the generation immediately preceding our own. If the torch of surgery has burned more brilliantly and effectively in our day than in any preceding age, to the inspiration supplied by these great men is due much of the credit. The stimulating and inspiring influence of their characters and labors has warmed into active, earnest and successful effort the Listers, the Senns, the Taits, and all the captains of the hosts of our own great and notable day and generation.

The second is the characteristic spirit of the age, which has had its effect upon other departments of science as well, and on surgery as much as any. I mean that spirit which is so well exemplified in the work of Darwin and his followers, who once for all demolished that stumbling-block in the way of scientific and philosophical progress, viz., the idolatry of authority with the resulting dread of original and independent speculation.

In our day surgeons, like the workers in other fields of science and art, have claimed the right to think and reason for themselves, and to pursue their speculations to their ultimate conclusions, and in so doing they have in large measure developed the faculty of judiciously estimating the proper relations between observed facts on the one hand, and speculative deductions therefrom on the other.

The day is past and gone forever when an observing and thoughtful surgeon would tremble in the presence of his own observations, and refrain from reasoning out any theory based thereon to its logical conclusion and applying it in practice, lest peradventure it might land him in a contradiction of the previously accepted orthodox beliefs which, with all their accumulated load of inherited respectability, have been handed down to him to be carefully cherished and worshipped as the *ultima thule* of all truth and wisdom.

How many pathological, anatomical and surgical dogmas of the most venerable antiquity has our generation seen swept away like so many stumbling-blocks and rocks of offence in the benediction-laden ship of modern progress ?

And in this great work may we not justly claim for the new world as large a meed of praise as for the old ? Is it not a plain fact that the spirit of original investigation and independent speculation has been abroad in every section of this great western hemisphere, in consequence of which an amount and kind of surgical progress has been accomplished which has commanded the most respectful recognition from the whole world, and especially from those places in Europe which have hitherto been regarded as the very fountain sources of all medical and surgical truth ?

This is one of the most remarkable, and to us at any rate, one of the most interesting features of this great surgical age. In times past American students have flocked to the European schools to complete their surgical education, and they do so yet, and undoubtedly with great advantage, nevertheless, the time has arrived when the necessity for such pilgrimages is becoming every day less and less apparent, and when the question is more and more asked, with ever-increasing show of reason, whether we are not in a position to make at least a reasonable return in kind for all that the East is able to bestow upon us, and to confer as valuable gifts upon the surgical pilgrim from Europe as American pilgrims were able to obtain there. The current has certainly begun to flow in this direction, and I am convinced that it will continue to do so until a course of American surgery will come to be regarded as indispensable to Europeans as in former times a European one has been to Americans. The beneficent results which such a system of reciprocal instruction and inspiration would insure directly and indirectly to humanity in general might possibly be foreshadowed in the ecstatic flight of a poet's dream or a prophet's imagination, but certainly it cannot be done justice to in the commonplace terms and limitations of such a discourse as this.

A third and, perhaps, equally potent feature in the progress of modern surgery is the creation and growth of the so-called specialities. Notwithstanding the fact that it has been fashionable in certain quarters to sneer at, or even condemn, this more or less artificial division of labor; and notwithstanding the undeniable fact that some rather serious abuses have arisen therefrom, and it has not been an altogether unqualified blessing, still it is impossible to close our eyes to the fact that otherwise unattainable advantages have accrued to surgery by the devotion of certain individuals to more or less clearly marked out segments of the great field; and that such individuals should come to be known as ophthalmologists, gynæcologists and so forth, was no more than natural and proper, provided, always, that they started out in the first place as fully equipped general surgeons.

The ophthalmologist or the gynæcologist who is not a general surgeon is like a sailor whose powers as a navigator are confined to one side only of his ship. In other words, the exclusive specialist, the man who knows practically nothing outside of the narrow artificial limitations of his own specialty is *prima facie* a quack, and for his existence and his foolishness honest scientific specialism should not be held responsible. *Every surgeon need not be a specialist, but every specialist must be a surgeon.*

I don't know that there could be a much better criterion of the progress of surgery in recent years than a fair and impartial study of the authoritative utterances of some generally recognized master of a bygone age in contrast with what we are able to note as to the present state of the art.

For this purpose allow me to call your attention to the address on surgery delivered before the British Medical Association, at its annual meeting in Leamington, in August, 1865, just twenty-seven years ago, by James Syme, the then Professor of Clinical Surgery in the University of Edinburgh. It is but natural for me to select this address as my text, first, on personal grounds, having had the privilege of enjoying, as a student, an intimate acquaintance with the author; and, secondly, because it is of the nature of a review of the progress of surgery in a given period, viz., forty years, as it appeared to one who deservedly stood in the very front rank among the teachers and apostles of the art and science of surgery during the whole of the epoch covered by the address, one whose doctrines are to-day quoted with respectful consideration at least as frequently as those of any individual who has ever taught surgery, unless, perhaps, with the single exception of John Hunter.

The whole address is characteristic of the man and his life work—plain, direct, uncompromising, earnest and practical—"For he taught them as one having authority and not as the scribes."

I will try to select a few of the most suggestive points in this address for our present consideration.

Of course the dressing of wounds is one of the most important topics referred to, and in that connection the old method, which consisted of hermetically sealing the edges or cut surfaces of a wound and retaining them in that condition for a certain definite orthodox period of time before changing the dressing, is condemned, the result of this treatment being a total prevention of union by first intention. "To avoid this great evil," says the writer, "I advised that the edges should not be brought together until the bleeding had ceased, and that there should be no impermeable covering placed over them. The principles which I thus endeavored to establish are now, I believe, generally recognized in practice."

It was in accordance with the eternal fitness of things that his own son-in-law should have been the one to take up this subject where Syme left it off, and to have worked out all those theoretical and practical details of wound-dressing which are now so universally known and practised under the title of antiseptic and aseptic treatment. Without pausing to discuss the merits of this much debated and somewhat hackneyed subject, from either an abstract or personal point of view, we must all admit that the industry and faithfulness with which it has been worked out, have brought forth good fruits of a practical character and have certainly entitled their distinguished author to all the credit and honour which has been so abundantly showered upon him by a grateful and appreciative profession.

Moreover, we are in a position to claim for the results of our wound treatment to-day a degree of safety and efficiency, which Mr. Syme would be the first to recognize and applaud if he could have the opportunity of observing it.

In discussing the subject of articular disease, rest by means of the long splint, counter-irritation by means of the actual cautery, and in the advanced cases resection of the articular surfaces, together with general tonics at all stages, comprised the treatment recommended. Thanks to the teaching of American surgeons, under the leadership of Dr. Louis A. Sayre, of New York, we are able to claim a material advance in this department of practical surgery. Rest and extension by weight and pulley—compression and protection—as well as rest by well-fitting plaster of Paris casts, extension splints and braces of various kinds, the free use of tenotomy, early opening and scraping out of all tubercular matter and all other injurious debris from the affected joint with or without removing the osseous surfaces, all these have been added to our resources since Syme's day, and it is worthy of note that the operation of resection of the hip joint, now so successfully practised in suitable cases, does not seem to have ever been taken into consideration by him, or anyóne else at that time, at least in Europe.

The operation of subcutaneous treatment of loose cartilages in the knee joint, is mentioned as a safe and easy method of treatment, but with our modern safeguards against septic infection, we don't hesitate to cut right down in any case of the kind, remove the offending body and close up the wound, just as we would do in any other part of the body.

For the arrest of hemorrhage the use of the silk ligature, leaving both ends protruding to furnish drainage, is strongly advocated. Now we use a carefully prepared animal ligature, cut it short, close the wound, apply a comfortable protective dressing and confidently look for union by first intention, and we don't expect to hear from the ligature afterwards.

Referring to the surgery of the head, we meet at once with the matter-of-fact statement that "much has been done in the way of improvement," and the following instances are cited:

1st. An improved method of enucleation of the eye-ball.
2nd. Bowman's operation for fistula lachrymalis.
3rd. Tenotomy for strabismus.
4th. Improved methods of treating nasal polypi.
5th. Tonsillotomy.
6th. Excision of the maxillary bones for tumours.

No mention whatever is made of the operation of trephining. In his book on the principles of surgery, however, we find a description of that operation along with this commentary: "Cases admitting of this operation are extremely rare, and I never knew a successful case of it."

If time permitted us here and now to present the testimony of the ophthalmologist, the otologist, the laryngologist, and last but not least, the brain surgeon of to-day, as to the surgery of the head as a definite field for surgical effort, how marvellous would the contrast appear.

In speaking of the thoracic region the only point considered worthy of mention by Mr. Syme is the diagnosis and treatment of cystic tumours of the mamma. Had resection of one or more ribs for empyema been dreamed of at that time, it certainly would not have been omitted. So that we may fairly reckon that most satisfactory procedure in the long list of solid surgical advances gained within the last quarter of a century.

"Descending to the pelvis" (to use his own words), the following substantial steps are noted:

1st. The treatment of hydrocele by the injection of the tincture of iodine after tapping.

2nd. The treatment of the diseases of the rectum, fistula, fissure, hæmorrhoids and stricture by methods precisely similar to those used now. No mention is made of operations for cancer of the rectum, which are so frequently and successfully performed now-a-days, especially since the method of first removing the coccyx, and if necessary a portion of the sacrum, has been resorted to.

Stone in the bladder and stricture of the urethra are discussed, and in the former the left lateral operation of Cheselden is advocated, and in stricture gradual dilatation and external urethrotomy are recommended as the most suitable methods of treatment, and for my own part I am inclined to believe that these teachings have not been materially improved upon up to the present day, although there is no doubt a certain field of usefulness for urethrotomy.

Speaking of the female pelvis, he says, " the most remarkable change that has taken place in the way of improvement, is in the treatment of vesico vaginal fistula, which was formerly held to be nearly if not altogether incurable, and is now remedied, no less easily than certainly, through means of silver sutures, for the introduction of which we are indebted to Dr. Marion Sims." In contrast with this brief but authoritative utterance of the foremost surgeon of Europe twenty-seven years ago, we have to set the whole science and art of gynæcological surgery with its magnificent record of brilliant discoveries in pathology, and its still more brilliant operative procedures for the relief of suffering and saving of life. Add to this the marvellous fact that there is hardly a single viscus contained in the *abdominal* cavity that has not during these few intervening years been securely placed within the reach of the surgeon's diagnostic and operative power.

To even enumerate the individual operations and other definite and assured gains of this great field of modern surgery would require an expenditure of time which we cannot afford; besides, to such an audience as I have the honour of addressing any such enumeration is superfluous.

It is in regard to the contents of the various cavities of the body, the cranium, the thorax, the abdomen, the pelvis, that the most valuable and the most astounding surgical advances have been made, and I think it is no more than the simple truth to say that neither Syme, nor any single individual of his time, were able in their most hopeful and prophetic moments of surgical aspiration to even conceive of anything approaching such results as have been positively and permanently arrived at.

To my old master it could not, however, fail to be a source of the utmost satisfaction could he but know it, that to some, in fact a goodly number of his own pupils the world is directly and indirectly indebted for a great deal of the success of this great movement in the onward march of surgery.

It would no doubt be an easy matter to illustrate in other ways, and to a much greater extent, the progressive changes which the science and art of surgery have undergone in our day, and it would no doubt be an interesting and profitable exercise to consider in detail the individual steps and the order and manner in which they have been laboriously accomplished, and to call the roll of the leaders who, in many lands, have headed the victorious army in its ceaseless march from victory to victory. But time forbids. I hope and believe, however, that brief, fragmentary, imperfect as this little glance backwards and around us over the field of action has been, that still it may be regarded as sufficient to justify us in appreciating, on the present occasion, the concluding words of the address, of which so free use has been made at this time: "In conclusion, Mr. President and gentlemen, I beg to express my hope that from what has been said, surgery will not appear to have stood still or pursued a retrograde course during the last forty years, but on the contrary to have been improved in many important points of practice and to hold out the prospect of further advance, so that when forty years hence some senior member of the Association shall take a similar retrospect, he will find no lack of materials for illustrating the march of progress."

One more prophetic utterance made at or about the same time by one of Syme's own colleagues (Sir James Y. Simpson), I feel impelled to quote here, although its scope is not limited to the field of surgery, but extends to larger and more indefinite departments, in all of which we, as members of the medical profession, have a strong and direct interest.

"It may be also that the day will yet come when our patients will be asked to breathe or inspire most of their drugs instead of swallowing them, or at least when they will be changed into pleasant beverages instead of disgusting draughts and powders, boluses and pills. But that day of revolution will not be fully realized till those distant days when physicians—a century or two hence—shall be familiar with the chemistry of most diseases; when they shall know the exact organic poisons that produce them, with all their exact antidotes and eliminatories; when they shall look upon the cure of some maladies as simply a series of chemical problems and formulæ; when they shall melt down all calculi, necrosed bones, etc., chemically, and not remove them by surgical operations; when the bleeding in amputations and other wounds shall be stemmed, not by septic ligatures or stupid needles, but by the simple application of hæmostatic gases or washes; when the few wounds then required in surgery shall all be swiftly and immediately healed by the first intention; when medical men shall be able to stay the ravages of tubercle, blot out fever and inflammation, avert and melt down morbid growths, cure cancer, destroy all morbific organic germs and ferments, annul the deadly influences of malaria and contagions, and by these and various other means markedly lengthen out the average duration of human life; when our hygienic condition and laws shall have been changed by State legislation, so as to forbid all communicable diseases from being communicated, and remove all causes of sickness that are removable; when the rapidly increasing length of human life shall begin to fulfill that ancient prophecy, 'the child shall die an hundred years old;' when there shall have been achieved, too, advances in other walks of life far beyond our present state of progress; when houses shall be built and many other kinds of work performed by machinery, and not by human hands alone; when the crops in these islands shall be increased tenfold, and abundance of human food be provided for our increased population by our fields being irrigated by that waste organic refuse of our towns, which we now recklessly run off into our rivers and seas; when man shall have invented means of calling down rain at will; when he shall have gained cheaper and better motive power than steam; when he shall travel from continent to continent by submarine railways, or by flying and ballooning through the air; and when, to venture on only one illustration more, tiresome surgical addresses shall be no longer required to be written by long-winded, so-called orators, nor listened to by the long-suffering and uncomplaining members of associations."

These utterances unquestionably seemed altogether Utopian at the time they were breathed forth by their gifted, far-seeing author, but from what has already been realized in the direction here indicated are we not justified and encouraged to look to the future with the keenest feelings of hope and confidence, as well as to the past with equally lively feelings of pride and gratitude; for who shall presume to say, so far as the march of modern scientific medicine and surgery are concerned, "Thus far shalt thou go, and no further." For my own part, Mr. President, I have long felt that our profession, as such, has been entirely too modest. Like true worth in general, it has refrained from asserting itself and demanding the power and position justly due it. The irresistible logic and force of facts and circumstances, however, are working many deeply important changes on men and things, and to the watchman on the watchtower nothing is more obviously perceptible among the coming events of the near future than the promotion and elevation of the medical profession to a position of eminence and power which its intrinsic greatnes and vital usefulness justly entitles it to.

DISCUSSION.

DR. V. H. MOORE—I have listened, as no doubt you all have, with a very great deal of pleasure and profit to the able exhaustive and elequent address of Dr. McLean. He has covered the field completely and so perfectly. He has entered almost every cavity , and he told you something about it when he came out, so he has left me very little to say. Although he is not a Canadian now, he was once, and I am proud to say that I listened to his very able lectures on physiology in 1867 and 1868 in the old Limestone city. He has circled the head and entered it, the chest and entered it, the abdomen and pelvis and entered them. He did not neglect the eye nor the ear nor the throat. Now what is left for me to say? He told us of the surgery of forty years ago, and of the surgery of to-day, and he did more than that—pictured out the beautiful new

Jerusalem. To attempt to follow a paper like this is utterly beyond my power. I shall not take up the time of this Association by reiterating what has been so well and ably said; better than I could possibly say it if I had ever so much time for preparation. I shall not take up your time, but let me express the hope that this distinguished gentleman may confer a similar favor upon us on some future occasion.

DR. REEVE—I should like to move a vote of thanks, but that I presume is not in order. I should like to call Dr. MacLean's attention, not in any captious spirit, to a slight lapsus with reference to opthalmology, which, he said, was unknown 25 years ago. Though I was then a young man, I had been guilty of iridectomy, and extraction of cataract was looked upon as an almost ancient operation.

HON. DR. SULLIVAN—Of course the paper to which we have listened does not admit of discussion, but I rise for the purpose of seconding the resolution to tender a cordial vote of thanks to Dr. MacLean for the very able paper which he has read, a paper which comprises a great deal of research and industry, and has been presented in a most eloquent and able manner. It has been my good fortune to be acquainted with Dr. MacLean for a great many years. I recollect when he first came to Canada, after having imbibed the lessons from the greatest surgeon of the day, of whom he has spoken so affectionately, Dr. Syme of Edinburgh. Like many other young Canadians, Dr. MacLean considered Canada was not large enough for him,—did not afford surgery enough for him—and he went to the United States. There he embarked in his profession, and it is such a satisfaction to us Canadians to know that he is one of a number of our countrymen who have met with success in the neighboring country. We have Osler, whose name I may mention in connection with quite a number of others who have secured leading positions second to none in the neighboring republic. That Dr. MacLean, in the space of a few years, by his own unaided ability and without influence of any kind, should have attained the position that he occupies is, I might almost say, a phenomenon, and I am sure that his Canadian friends rejoice at his success. They hope that the reputation he has attained as a surgeon will continue, because it has not turned his head. Possessing all the attributes of a gentleman, he has always come to us in Canada laden with the treasures resulting from a varied and extensive practice, and has given us the benefit of them as he has done to day. Therefore, I hope that he will continue to make these visits to the land of his birth, and I am sure that we will always be proud to give him a cordial reception. The paper, as I said before, does not admit of any discussion; it is a paper which has been assuredly a rich treat to me, as it has been to all of us, and I am sure you could not help feeling a glow of pride and satisfaction that this Canadian friend and countryman of ours has been able to attain the exalted position which he occupies in the surgery of the United States. I trust that he will continue in his successful career, and that his fame will constantly increase and widen until we are all still prouder of him if possible than we are at the present time.

Dr. Dupuis—I cannot withhold a few words of congratulation to Dr. MacLean for that able and beautiful address that he has delivered. I have had the pleasure of knowing Dr. MacLean ever since he left the American army, after two years service there, when he first came from Scotland to settle in Kingston. I think the first operation he had there was a case in which a fellow fell off a load of hay and hurt his throat. The doctor performed tracheotomy and saved his life. That was soon after he came to Kingston. From the time of that operation his fame has been widening. People come to him from a long distance to have operations performed. At the time he was in Kingston that city was quite a surgical centre. People used to come there even from Montreal and Ottawa, and all parts of the country, to have Dr. MacLean operate on them, and his fame extended so rapidly and so widely that they heard of him in Ann Arbor. They wanted a professor of surgery in the University there and they sent a polite deputation to ask him to go to Ann Arbor. I had a conversation with him on the subject and I said " by all means go. It gives you a wider field in which you can distinguish yourself." I was never more pleased than when I saw in the American Journal of Medical Science, in an article reviewing a hundred years of medical surgery, Dr. MacLean's name spoken of as a leading surgeon of the North Western States. I was greatly pleased with that, and I think he has shown to-day, as all who are acquainted with his career know, that he is the leading surgeon of the North Western States, and not only as a surgeon, but as an orator and a man of comprehensive mind who can gather the facts of years gone by and put them in pleasing manner before us, thus showing a master hand. While on my feet, I think I can correct a mistake of Dr. Reeves'. Dr. MacLean did not mean to describe the state of ophthalmology twenty-five years ago, but he said that Dr. Syme said it was the state of it forty years before that time—forty years previous to the time Dr. Syme was speaking of.

Dr. MacLean—What I meant to say was that that was the state of ophthalmology at the time, twenty-five years ago, as it appeared to Dr. Syme.

Dr. Hingston—I should do violence to my own feelings if I did not accord my meed of praise to Dr. MacLean on his excellent paper, with one exception. His allusion to me was prompted by a feeling of partiality I am sure. Whatever it was, it was but a feeble echo of the feeling of respect and affection that I have entertained for him ever since I had the pleasure of knowing him, and that is many years ago. Dr. MacLean has gone over the whole domain of surgery, and others have tried to follow him but could not. They got into the cavities and got out of them as quickly as they could. Dr. MacLean will perhaps pardon me if I do not quite agree with one small portion of his paper. It is as to the relative advantage of lithotomy and lithotrity in cases of stone in the bladder, and the relative advantages of dilatation and internal division of stricture. Dr. MacLean gives preference to the old classical operation of gradual dilation of the urethra in stricture. I happen to be a few months, perhaps a year or two, older than Dr. MacLean and I taught for twenty-five years precisely the same as Dr. MacLean now teaches, but there came a time, and there will come a time with Dr. MacLean, when I changed my views upon these two questions. Certainly, for the first twenty-three or twenty-four years of my practice I gave the preference to lithotomy for stone in the bladder. Now I do not operate once in ten times in that way when I can perform lithotrity. Then as to the treatment for stricture, it was the old method taught forty years ago, the method I taught in my hospital for twenty-five years. Then came a change in the spirit of my dream. Until then I thought, as Dr. MacLean does now, that the best method is gradual dilation, but I have been forced to the conclusion—and I tell my students on every occasion that I have changed my views on that question--that the division of stricture gives quicker and more permanent results. It seems almost in bad taste for me to criticize the paper in this way, but I know Dr. MacLean will be pleased to have my views on these points. Surgeons like to have these points brought up. I will join with those gentlemen who proposed the vote of thanks—I will do it with all my heart, and I am delighted that Dr. MacLean has come to us and I hope he will come again soon.

Dr. MacLean—I am very happy indeed to hear all the kind and complimentary things that have been said. I feel very deeply gratified, especially when these compliments come from old pupils like Dr. Reeves, and old colleagues like Dr. Sullivan and Dr. Dupuis, but I should have been very much disappointed indeed if my observations, as contained in my address, had been allowed to pass without a single word of criticism or opposition. I feel very grateful indeed to my friend Dr. Hingston for having given some little show of opposition. If there is anything in this world that a surgeon—especially one with some Celtic blood in him—enjoys, it is opposition. Perhaps not quite so much as my Hibernian friend, Dr. Sullivan, but even a Scotchman likes a little of that. But to return to the practical point that Dr. Hingston has taken up, the very point on which I expected to find a difference of opinion. I did not in my address wait to give all the reasons for the faith that was in me, because that would have made it too long and tedious, for I do think if there is anything in this world that is a nuisance it is a so called exhaustive address on medical surgery. It is generally more exhausting to the audience than to the subject. I tried to avoid that and made it somewhat dogmatic, but now that Dr. Hingston has raised the question I think it is but fair that I should state why I hold these views. With regard to the operation for stone in the bladder, I have lectured, as Dr. Hingston has done, on surgery for twenty-five years more or less, and during most of that time, as you are aware, I had a large clinic of a peculiar kind--not the ordinary run of surgical cases in a large city, but cases that come from a very wide area of a vast continent, wherever my old pupils had settled or my old patients lived, or wherever the name of the University of Michigan had been heard of, and in that way I had an opportunity of seeing many curious cases and having many strange experiences, and one of those experiences was the oft returning cases of stone in the bladder where the operation of crushing had been performed often by very eminent and skilful hands. Consider for a moment the condition of the bladder which had a stone in it for some time, the inflamed, irritated, degenerated condition of the membrane. It is a common thing to operate by cystotomy where there is no stone at all. What for? To give the bladder physiological rest. It is an operation I have frequently performed and with great success. One should guard against operating where there is irritation of the coating and then take out the stone and have done with it. Now if we do so in a case where there is no stone in the bladder, how much more so is it necessary where there is a stone. In the operation of lithotomy you not only get rid of the stone, but you give the bladder physiological rest, and an opportunity to rejuvenate itself and to take a fresh start in life, and to return to its primeval condition of a healthy structure. That is the real reason why I prefer the lateral operation to any other method of removing stone from bladder. The suprapubic operation I consider a bad operation; I know I am something of a heretic, but I express my own view. The lateral operation, affording rest, drainage, and an opportunity to recuperate, I consider best. I have performed it often and that is one reason why I am partial to it, because it is only right for a man to praise the bridge that carries him safely across. At the same time, we ought all to be open to conviction, and when Dr. Hingston or any other man can show me good and sufficient reasons, backed up by actual practical facts to change my mind, I shall immediately do so and gladly confess that I have been in error, and set out at once to mend my ways. As to the question of stricture of the urethra I base my opinions there upon a pretty large experience of it, having been associated with Professor Syme, to whom we are really indebted for all that has been done in the matter of stricture. He was the pioneer; he was the man who worked out the pathology of stricture, the man who invented the method which so simplified the operation and made it safe. He was the man who operated so frequently and successfully as to demonstrate the safety and beauty of that operation. Having been associated with him for so many years, and watching him carefully insinuating instruments through the tortuous and difficult passage of the stricture, and having tried to imitate him in my practice of thirty years or more, on the data obtained that way I have a very firm conviction. I have dilated a great many strictures and got them along so far that I have said to the patient, " now here is a bougie, a good large one, that will slip in. Pass that in every Saturday night and keep quiet until Sunday and you will cure yourself. Those patients have very rarely come back, unless they have been careless and neglected themselves. Of course, where the stricture has become resilient and refractory and refuses to dilate, then the question arises between two or three operations. I hold that the external operation is best. You see what you are doing. I do not like this stabbing in the dark, either moral, mental or physical. I believe you see better what you are doing, you have an open wound, you divide the stricture thoroughly, and above all I believe it gives the best results. I have seen internal urethrotomy performed often, and I have frequently operated on the same cases afterwards on account of recurrence. These are the grounds on which I take this stand. I think in the operation of dilatation, perhaps because it is tedious and the surgeon does not get the patient off his hands quick enough, he is sometimes inclined to slur an operation to avoid it, and then urethrotomy is simple, and the operation is so easily done that it is tempting to a surgeon, and he is apt to overlook its defects. No longer ago than last Sunday morning a gentleman came into my office and said to me, " I will have to have an operation for stricture." I said, " how do you know?" He said, " I have been down to New York and had an examination," and he mentioned the name of a gentleman who is now here, and therefore I will not give his name—he mentioned the name of a gentleman with which we are all familiar. He said, " I have the stricture so tight and so hard and organic that it is perfect nonsence to talk of treating it any other way than by operation." The surgeon told him it would take from four to six weeks and would cost from $500 to $1,500." My patient said " I do not want to have it done there, I want you to do it, for when I told the gentleman to examine me I mentioned that I would go back straight home and have Dr. MacLean do it." He said, " all right you could not be in better hands." I said " lie down and I will examine you." I took a full sized bougie; he said, " you cannot use that on me, for all that the doctor in New York could use was a whalebone bougie." I said, " I only want to make an examination." I passed the bougie and found a decided stricture. I finally passed a very small instrument but it was a metal instrument. I then used a larger one. Last Sunday he came to my office and then I passed three or four instruments. He said, " since I have been here I have been able to pass water easily." I have no doubt he will be rid of his stricture without any operation. Now an operation may be more brilliant to the surgeon but it will not be so beneficial to the patient. I have no doubt whatever, so far as that patient is concerned, an operation will be entirely avoided. On the other hand, there is a danger in the opposite direction. I contend, so far as the treatment of stricture is concerned in a vast number of cases, the patient can treat himself and when an external operation is necessary it can be performed. I believe a large number of cases of urethral trouble are subjected to the operation of internal urethrotomy, when there is not the slightest necessity. I tell you it is an operation that is performed too often, and there is great danger of sepsis in a case where there is a little chronic discharge. The patient comes to me and says I have a chronic discharge and you might as well operate on me first as last, and I want the operation performed." I very rarely do it indeed. I pass bougies for them and treat them that way carefully and persistently and get rid of the trouble. For these reasons, which I have given you, I still contend that treatment by external operation is better. First, by internal operation you may cut too much, you may have hemorrhage and the results are not so promising. I did not give them in my address, but inasmuch as Dr. Hingston has challenged my views, and done it with that grace, dignity and eloquence characteristic of the man, I really could not refrain from saying a few words in response to his criticism.

Dr. HINGSTON—I am obliged to say something; it is merely to say that if I proposed to join in a vote of thanks to Dr. MacLean a few minutes ago, I do so now with infinitely more satisfaction. The address was admirable, and I think his defence of the two operations is very clever indeed. I shall not discuss it as I think it would take a day, and I have no doubt two-thirds of those present have decided views on the subject. I will merely say in a general way that there are cases and cases of stone in the bladder, and there are strictures and strictures, and I think a man would not be a wise man who would adopt Dr. MacLean's method or my own in every case, and the same with regard to stricture. As to the frequency with which I try it, I am not disposed to operate more than once in five times by lithotomy. Perhaps once in five times, but as I said the question is too large to be discussed here today. I am delighted that I gave Dr. MacLean an opportunity to make those excellent observations.

The vote of thanks was adopted unanimously.

Dr. MacLean—In returning thanks for this vote I wish to say one word. In the first place, referring to the remark of Dr. Sullivan, I may say that I was born a Canadian, that wherever I live I shall be a Canadian and I shall die a Canadian. In the second place, I wish to say that there is not anywhere in the United States or in any other part of the world a Medical Association or an audience from which I could receive a vote of thanks with greater pleasure or greater gratification than from the Canadian Medical Association.

APPENDICITIS. *

BY DR. H. P. WRIGHT, OTTAWA.

CASE I.—J. M., taken ill on a certain Sunday suddenly with acute abdominal pains, which, notwithstanding warm applications and opium, increased, and that night was diagnosed as *acute appendicitis without tumour*, by the attending physician, Dr. Garrow. As far as I can recollect, a few hours after the first onset of the pain, it became localized in the iliac region, and remained there with the usual objective symptoms of rapid small pulse,—slightly elevated temperature,—anxious facial expression, and constipation till Tuesday morning, when the pain and tenderness became more general, associated with tympanites, and a pinched condition of the features. On Tuesday night I saw him with Doctors Garrow and Henderson, and found marked tympanites, pain and tenderness over both flanks, with deep dullness on percussion, particularly in the right iliac region. Pulse small and wiry, facial expression bad. The diagnosis was acute appendicitis with general peritonitis, and it was decided to operate early on the following morning. Willard Parker's operation was adopted; a curved incision was made over the site of greatest dullness, about an inch above the middle of Porpart's ligament. The division of the deep tissues was followed by a gush of stinking pus. The appendix inflamed, thickened and adherent was tied and removed. Peritoneum was adherent at different points to intestines which, on separation, was found to pocket pus, an accumulation being found even on the opposite side. The abdominal cavity was well washed out with boiled water, a double drainage tube inserted, and the wound packed and brought together. Death occurred in about twelve hours.

Probably in this case perforation occurred on Tuesday, because till Tuesday towards the afternoon there was no tympanites, and the tenderness was even then found to be limited to the right iliac region ; in the evening it was marked in the left, and then there were symptoms of collapse.

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* Read at the meeting of the Canadian Medical Association, at Ottawa, September 21st, 1892.

Guerster says that the " absence of tumour with very acute local and general symptoms represents an extremely grave combination of things, its meaning being a general perforating peritonitis. It would be extremely difficult to save the patient even by the most resolute means." But before perforation occurred, the case doubtless belonged to the first class, that is, simple appendicitis without tumour, about which we are told that " whenever acute and persistent pain occurs in the iliac region, accompanied by vomiting and retching, the pain being markedly increased by palpatation, trouble of the appendix could be confidently diagnosticated," and further on he says, and this is a most important part, " that in view of the impossibility of foretelling whether in a given case, spontaneous evacuation of the contents of the appendix or perforation is to take place ; and in the latter case, whether superficial or deep-seated abscess will develop ; and considering the fact that laporatomy followed by excision of the appendix yields good results if done before perforation occurs, it is safe to follow McBurney's advice, which recommends removal of the appendix, if the symptoms persist and increase for forty-eight hours.

CASE II.—Railway conductor, aged 32. Was first seen by Dr. Edwards on the third day after onset of acute symptoms, and by me in consultation on the following morning. We found pain and tenderness over the whole iliac region, very little tympanites, slight elevation of temperature, slight dullness on percussion on very deep pressure. We made up our minds to wait for further developments in the absence of other alarming symptoms. In three days, the dullness being well defined, and extending towards the lumbar region, we agreed to operate, and an opening was made directly over the site of the appendix. The adhesions were so firm that it was thought well not even to search for the appendix, and after evacuating a large quantity of stinking pus, it was washed out and drained with a double drainage tube. The case progressed favourably. On the tenth day the drainage tube was removed and at the end of four weeks the patient was walking about, and shortly after resumed his occupation. This is a good illustration of the type of ileoinguinal acute perityphlitic abscess, by far the most common variety, and when recognized, in the absence of acute symptoms it is often good surgery to wait until the fourth or even the sixth day before operating, so that firm adhesions may take place between the peitoneum, constituting the anterior wall of the abscess, and the adjacent tissues. Entering the abscess is then a simple matter and absolutely unattended by danger. Another case of this type was operated upon by Dr. Powell, but as I was unfortunately unable to be present, I will ask him to give an outline of its history himself.

CASE III.—The next case is one of Dr. Garrow's, on a blacksmith, aged 18. Commenced to complain on Friday, 18th July, 1890, of headache, constipation and malaise, and on the Sunday following vomited. Immediately after had severe abdominal pain, and in a few hours the pain and tenderness were limited to the iliac region. Next day the tenderness was very marked, associated with dullness extending onward towards the lumbar region, and upward, so that it became lost in the liver dullness. I saw him on that day with Drs. Garrow and Henderson, and we agreed to operate in the afternoon. A large quantity of stinking pus was found corresponding with the area of dullness. Owing to adhesions the appendix could not be found. The abscess cavity was washed out and a double drainage tube inserted. Notwithstanding the greatest care, there followed tympanites, and every indication of general peritonitis and impending death till the following Thursday, when he passed a large quantity of flatus, and the following day and several succeeding ones fetid matter and pus. He then progressed satisfactorily till the end of August, and in the early part of September walked as far as Dr. Garrow's office. After that he developed a septic pneumonia, and some time later we opened a large posthepatic abscess which was probably septicæmic, and possibly due to direct extension from the appendix. He died in a few days after the second operation from exhaustion.

Case IV.—Dr. Edward's case of a girl of about 15 with ileo-inguinal abscess, operation about the fifth day. There was firm adhesion between the peritoneum and the adjacent tissues. The abscess cavity was entered for that reason with safety, a double drainage tube was used, and the patient, I understand, recovered without a bad symptom.

Case V.—Dr. Henderson's case—ileo-inguinal. A young man about 24 years of age, clerk in a dry goods store. Shortly after first onset of symptoms, pain was eased by opium and bowels kept open with salines. I saw him on the fourth day with Drs. Henderson and Garrow, and found unmistakable evidence of tumour, pain on pressure, dullness from the right of the appendix towards the lumbar region about four inches and two and a half inches in width. Pulse rapid and abrupt, temperature 102° and ascending. The temperature being the same on the following day, and the other symptoms unchanged, operation was decided upon. The peritoneum was found healthy. Appendix behind the cæcum, black and distended, with a point of suppuration near the bowel. It was tied with a double silk ligature and removed. Recovery progressed without any undue event.

Case VI.—A spare, healthy boy of 15 under Dr. Lynch, of Almonte. Was taken ill with abdominal pain on Saturday, 10th October, 1891. Symptoms increased, with indications of localization, and on Tuesday morning, when I first saw him, his facial expression was bad, pulse small and rapid, skin clammy, great tenderness over the illiac region, and dullness on percussion. Gave him a full dose of opium, which produced rest, and in six hours we found the general condition much improved, with local symptoms unchanged. Owing to the seriousness of the constitutional symptoms, immediate operation was decided upon. An incision was made over the site of greatest dullness, one and a half inches to the umbilical side of the anterior superior spinous process. Peritoneum found healthy, and presenting surface of cæcum in the same condition. On passing finger behind the cæcum a lot of stinking puss escaped, and a further examination found the appendix collapsed, highly congested, and firmly adherent to the posterior wall of the cæcum. Washed out the abscess cavity and inserted a double drainage tube. I felt some little anxiety as the peritoneal cavity was exposed, owing to the peculiar position of the abscess, and on that account drew the edges of the wound well together and ordered perfect quiet, feeling that in a few hours sufficient lymph would be thrown out to protect the peritoneum. The case progressed satisfactorily. At the end of two weeks, the discharge being serous and inoffensive, the tube was withdrawn. Since then, I understand, his progress has been uninterruptedly good. I look upon this last case as one of deep-seated ileo-inguinal abscess, owing to the position of the appendix on the posterior aspect of the cæcum. I have always been opposed to the use of exploratory needles, and this is a case in which such an experiment would have wounded the bowel.

Shortly after the last operation I was asked to see a case with Dr. Lynch, of Almonte, and unfortunately I have lost the notes of his case; for purposes of illustration it will, however, suffice to give an outline of it:—J. R., a boy of about 14, with good family history, and a previously good record, was seized with acute pain and vomiting on a given day. Soon associated with increasing temperature and pulse. Symptoms steadily grew worse, and on the third day I saw him; condition was then fair, pulse small and rapid, temperature 102°. Belly fat, great pain and tenderness over whole of right iliac region, with badly defined dullness on deep pressure. Pain and less tenderness extended over towards the left side. It was considered necessary to operate at once, an incision was made well above the middle of Poupart's ligament, and though the abdominal cavity was entered, no pus exuded. After some time, by careful digital exploration through the wound, the abscess cavity was entered between the pelvis and the bladder on the right side; offensive pus freely escaped, and with it came into the wound a large mass of suppurating omentum. This, after ligating with catgut, I amputated, then washed out the whole cavity with boracic acid and hot water, put in a double drain, and closed the opening. He only lived twenty-four hours, and died of general peritonitis.

Were I called upon to deal with such another case as this, I should make a second opening in the median line to secure thorough drainage and to facilitate the free irrigation as recommended by Mr. T. R. Jones of Manchester. Since November I have had, in my own private practice, four cases of acute appendicitis recovering without operative interference. Though important and interesting, the details of such cases are too familiar to you to permit me to relate them. I will only say that I treated them all with small and repeated doses of calomel, and large doses of sulphate of soda to keep the bowels patent, and occasionally with an opiate to relieve the pain, the dose of the latter being in direct ratio to the amount of suffering. Though in two of these cases the temperature from 100° to 102½° continued for nearly a week, and dullness in percussion and tenderness for the same time, so that every day I was prepared to operate, I never felt that the right time had quite arrived. Slowly the symptoms improved till convalescence was established.

In one, a boy of 9 was taken ill on the 26th of November with great pain in right iliac region. On the 27th the pain increased, and " markedly tender " over McBurney's point so that " he could not bear the slightest pressure." Vomiting set in on the 28th and 29th. In response to the treatment already mentioned he passed, together with an ordinary motion, a *whole* apple core. This was followed by immediate relief and rapid recovery. I will allude to this case later on.

In dealing with this subject, I have put to myself several questions, and have answered them to the best of my ability. I have dealt with my subject in this way for two reasons. First, because I think it enables me to select the most interesting points; and next, because it will, I hope, elicit concise and instructive discussion by the many able and experienced surgeons here to-day. I must begin with that all-important, oft repeated, and yet unanswered question: When shall we operate in appendicitis? All authorities, McKenny, Gunds, Guntin, Pepper, Bridge, Fitz, Jones, Treves and others, agree that when, at the end of 24 hours, there is an evident disposition to extension of local symptoms and an increase of constitutional disturbance, with or without tumour, *operate*.

When there is tumour the surgeon must be guided by surgical knowledge and surgical sense. If there are no constitutional symptoms it may be wise to wait for five or six days, when the operation is as safe as opening an ordinary abscess. Still, he must always bear in mind the possibility of a rupture into the peritoneum at any moment, with a rapidly succeeding septic general peritonitis.

With a distended, tender appendix, the seat of pus, and associated with all the usual symptoms of septic absorption, I know of no means to diagnosticate it for abscess. If it could be, an early operation would be called for to avoid peritonitis by the removal of the appendix. It seems to me the definition must ever remain more or less comprehensive.

How is the abscess formed? It is generally explained by the more or less gradual oozing of pus from the perforated appendix. As the pus comes into contact with the surrounding serous membrane, adhesive inflammation is at once set up, and the abscess wall is thus formed. If this covers the case, it seems to me the greater number of abscesses would be meso-cœlic in obedience to the law of gravitation, as most patients remain all the time in the dorsal position, yet this we know to be the rarest variety. My impression is that adhesions are formed when the appendix is inflamed, between it and the adjoining tissues, and that when perforation occurs, pus finds its way into the parts offering the least resistence. A free appendix is most likely to empty itself into the cæcum by virtue of its anatomical construction, yet, if the resistance offered be too great, its perforation is most likely to be followed by a general and a fatal peritonitis. This explanation will, I think, to some extent, explain those serious cases we now and again meet, with grave local and constitutional symptoms. When the problem of operation is constantly before us, and yet spontaneous relief is obtained, or rapid collapse occurs, we are led to believe we should have operated earlier.

Can inflammation of the appendix be diagnosed from inflammation of the caput cæci or of the pericæcal structures? I know of no means by which this can be done. Any of these conditions may exhibit the greatest tenderness on McBurney's point, as in the case already related, where relief was obtained on the fourth day by the passage of a complete apple core. As a rule, of course, there are distinguishing features, but occasionally a satisfactory diagnosis is impossible.

Should the incisions marked out by McBurney and Willard Parker always be adopted? I am inclined now to agree with Mr. Jones, of Manchester, and to enter the abscess on the site of the greatest dullness, particularly if associated with œdema. The greatest argument against this is the difficulty of distinguishing between the dullness of the abscess and that produced by the tonic contraction of the fleshy abdominal and lumbar muscles, when the abscess is, and it often is, directed backwards. I find that even in healthy men, with well developed muscles, the percussion note is *dull* over the extreme right of the iliac region. This point should be borne in mind, as I am certain it has caused serious mistakes in treatment.

Having made the incision and opened the abscess, should we search for the appendix? Even my own limited experience has taught me not to do this. If the appendix is not adherent, and can be easily found, and is distended, inflamed, or perforated, it should be removed. I think all authorities now agree with this opinion and practice. Sloughs often come away after some days.

Should we close the wound? I think this a most important question, and has much to do with the ultimate result. In all the operations I have witnessed or taken part in, the rule has been to allow of room only for the drainage tube. Bryant and Jones recommend the lower half of the incision to remain open, and the whole to be stuffed with iodoform gauze, the latter to be removed on the third day usually, and again packed, and so on till granulation tissue fills it up. I should like very much to hear the opinions of those present relative to this. In the same connection we might include the material used for drainage. I have been in the habit of using a double perforated rubber tube, one arm shorter than the other. This has the possible disadvantage of being rendered useless as a drain by compression in the event of much tympanitic distension. For that reason many recommend a glass tube, but that may cause ulceration by pressure of the abscess wall, with consequent mischief. Others recommend strips of gauze, and this may be the best means, though I am unable to speak of it from experience.

DISCUSSION.

The **CHAIRMAN**—This is certainly a practical paper. I am very much pleased with it and it should be well discussed.

DR. BULKLEY—I suppose no one knows less, theoretically, about this subject than I do, but personally I hope there is nobody knows more about it than I do. My first case occurred some thirty years ago in my own person. That was long before a knowledge of appendicitis and its operation existed, and I merely speak of it, as no mention was made of the mode of perforation that took place in my case, and as far as I have been able to ascertain by reading, it is not mentioned in any of the authorities. I was a boy twelve years old and had the ordinary symptoms known as appendicitis and I was treated by Alonzo Park. It was one of the earliest cases of opium treatment. The amount of laudanum I took in two weeks was about two pints. I had no movement of the bowels at all—poultices were applied to my side and my life was despaired of. They had no mode of operating. At the end of five weeks or thereabout the abscess discharged spontaneously. For a couple of days there was a free discharge of pus which after a time stopped and the fever abated. This is the first time I have mentioned the case. My impression from hearing the discussion to-day is that I should hesitate whether to direct my wife, in case 1 had a repetition of the disease, to allow my abdomen to be opened or not.

SIR JAMES GRANT—I have been very much interested indeed in the excellent paper of Dr. Wright on the subject of appendicitis, inasmuch as it is one that has attracted the attention of physicians and surgeons during the last few years. Dr. McPhedran and Dr. McBurney, of New York, who have written some admirable articles on the subject, have brought to light many important points in connection with it. I merely wish to bring before you to-day, as I have not had an opportunity of writing up my notes on the subject, a case that I have now under observation. A gentleman who is in his seventy-eighth year was attacked eight or nine days ago with very acute pains in the neighbourhood of the cæcum. Opiates were administered internally and all the ordinary means tried. I came to the conclusion that it might be, from the symptoms connected with it, a case somewhat unique in its character. I was under the impression that it was a case of acute inflammation in connection with the appendix, or the tissues around it. I treated him in that way for I had attended him many years before for attacks of rheumatic gout, which generally ended in laying him up for weeks at a time. Had it been otherwise, I should have been inclined to follow the system of those who advocate early operation. I prescribed energetic dry cupping over the appendix. I informed my patient that I believed it was not at all unlikely that he would develop an attack of gout in his extremities, as had been the case years before. On the eighth day, after the abdominal trouble had almost disappeared, he had a moderately acute attack of gout in his feet and knees. I mention this case to show how little we know about the appendix. Some years ago I had occasion to write an article on the appendix which was taken up later by Dr. Howard of Montreal. Since that time the treatment of appendicitis is by operation. Now the abdominal cavity is regarded as a kind of gymnasium, and men think nothing of opening it to see what is the matter. Not many years ago I have seen cases in which, if operated upon by physicians as well informed in surgery as medical men are now, might have benefitted by the operation. In fact, I saw a case with Dr. Wright many years ago, in which I was called in for a consultation. There was an elongated appendix. It tied the bowel up and made a regular stricture. We had a post-mortem afterwards, and we found that if we had used the knife the child might have been alive to-day, but at the same time there is no subject in the whole domain of surgery that a man requires to use more judgment or discretion about than this one of sudden operative interference. I have time and again met cases of ordinary appendicitis that have recovered under ordinary treatment, and others where they have dropped off when an operation might have saved their lives. I mentioned this case to-day, where an acute attack of appendicitis was followed by an attack of gout, to show how peculiar this appendix is, and it might be attacked by something of an acute character and afterwards assume a different form and leave the individual. We are living in an age of great progress, more particularly in the domain of surgery. We see what is being done, and those who keep in advance of the medical profession have reason to be proud of the great strides it is making in this nineteenth century.

DR. HILL, Ottawa—Is there a gentleman here who can give us any information as to the physiological use of the appendix? Also, I would like to ask Sir James Grant whether, in ninety-nine cases out of a hundred, he would be enabled to apply the dry cupping over the attacked region? My private opinion is that it could not be used in one case out of a hundred.

DR. MACLEAN—I listened with very great pleasure and interest to the practical and suggestive paper of Dr. Wright, and if it were in my power to add anything in the way of definiteness or certainty to the problems which he has so ingeniously suggested, I should be very happy indeed, but I do not think that I am in a position to do so. I do not think that any person is as yet. After all, the operations in cases of appendicitis are of very recent origin, and I think it will be some time before we are able to lay down a complete set of rules for our guidance in those cases, they vary so much from each other. I think there is one point with regard to the management of appendicitis; we must take into consideration each individual case and judge of it on its own merits. We cannot lay down a general law that will apply to every case. Patients vary as to their age, and to their habits, as to their general condition, and in so many ways that while in one case it would be very easy to decide what course to pursue, in other cases it is a matter of the most extreme difficulty and the greatest responsibility. I may illustrate by one or two cases which have occurred to me quite recently. One was a case of a very well-known young gentleman in the city of Detroit, a man occupying a prominent position there, a gentleman whom I have known for twenty years at least, and who has always been very delicate—a kind of constitution that a surgeon would be very unlikely to select, if he could arrange the matter beforehand, as a subject of operation. This gentleman was in the woods when he was taken ill with all the characteristics of appendicitis. He got a special train and was brought home as soon as possible, and I saw him perhaps forty-eight hours after the commencement of the symptoms. He was then suffering very much pain and had a good deal of fever—about 101—a rapid pulse, very furred tongue, very sallow complexion, and altogether it looked as if it would take very little indeed to turn the scale against him. The indications for operation were clear, except in so far as there was no fluctuation. That would have settled the matter of course. There were tenderness and swelling and all the characteristics. No doubt, if it had been an ordinary case brought to the public clinic or hospital, there would have been very little hesitation about performing an operation. But in this case, in view of the responsibility connected with it in many ways, and in view especially of the patient's condition, I did hesitate, and I made up my mind that I would wait anyway for twenty-four hours longer, getting everything ready in the house to operate, providing the temperature went up or other indications seemed to require it. I watched him very carefully indeed. In twenty-four hours his temperature had begun to go down. The swelling at the appendix had begun to disappear to some extent. His general condition was better, the expression of his countenance improved, and I felt still further encouraged to wait. I did so, watching him very carefully, until the symptoms gradually disappeared and he got well without an operation. Now there is one of those cases that illustrate the difficulty in deciding as to the operation. I have no doubt at all that if ten operating surgeons had seen that patient, eight at the very least would have determined upon an operation, and yet the patient made a good recovery without it. A very few days afterwards I was called into the country to see a young man, aged 22, who had violent symptoms of appendicitis and had been suffering for several days. I was called for the purpose of operating, as the surgeon in attendance was confident that nothing but an operation would save the patient's life. Sure enough I found him with a high temperature with well marked swelling, and I believed I could detect fluctuation. At all events, the general symptoms were so urgent that the case did not seem to me to admit of any doubt whatever as to an operation, and I, with very great facility, found the appendix imbedded in a large cavity of exceedingly fetid pus. I removed the appendix, washed out the cavity very thoroughly indeed, and left the cavity open with absorbent gauze so arranged as to make a good drain, and the patient recovered without any bad symptom. These are two characteristic cases illustrating the position that a surgeon very often finds himself in with regard to appendicitis—the question as to operation of the one case had gone so far—the last one I have described—that any doubt about it had really vanished. A few days before, it might have been much more difficult to determine, although, no doubt the patient would have had a better chance. There is one point that I notice in Dr. Wright's paper—the question of the kind of drain to use. I have tried all kinds and have settled down at last to gauze. I believe idoform gauze makes the surest drain so long as the cavity is not too full to obstruct discharge. Just a few days ago I operated for a case of appendicitis which also elicited another point brought out in Dr. Wright's paper. All the symptoms of a rapid case of appendicitis were there and I was called in for the purpose of operating. I operated on the patient within five minutes from the time I first saw him. The case had gone so far that the patient had been delirious, although the temperature was normal. One cannot always trust the thermometer. There was a patient in an abdominal stage of appendicitis, and yet his temperature was normal. Still his pulse was bad and he had a low form of delirium. There was a discharge of a large quantity of pus. I washed out the cavity and drained it well and the patient made a very rapid recovery. The point I wish to make is especially this, that I never saw the appendix. I passed my finger in and I found that the abscess which was caused by the appendicitis was fenced off from the peritoneal cavity, so I operated without touching the cavity, and I thought I should repress my desire for an additional specimen for my collection, and resist any tendency to look further for the appendix. He made a good recovery—as good as I have ever seen, and I do not suppose I shall every have any further trouble with him. I do not think it is always necessary to find the appendix or remove it. There is one other point with regard to those cases—it is one of the most unfavorable and unpleasant to contemplate. I can illustrate it by a characteristic case which occurred in my own practice about a year ago. A young lady had recurrent attacks of pain in the region of the appendix. I had been called in once before, but the attack had passed off and she was well, though she had a delicate constitution. Another attack took place and I was called in. The symptoms continued and became aggravated, although there was no very definite swelling. There was a high temperature, rapid pulse, pain, and general constitutional disturbance. In that case it was thought necessary to operate and I did so. In that case we got down to the appendix with the utmost facility and found it swollen, inflamed and adhering. I separated it, very gently of course. I do not think the whole operation lasted over five minutes. I closed it up and congratulated myself on having struck a very satisfactory and easy case. She was a young lady of about 17 years of age. Unfortunately she never did any good after the operation. She woke up in agony and all the symptoms of collapse came on with tremendous rapidity, and in twelve hours she was dead. Unfortunately, I could not have a post mortem. Strange to say, on the same day in New York, Dr. Bell of that city performed an exactly similar operation on a young lady of exactly the same age and with exactly the same result. He could get no post mortem either. Now, perhaps on the other side of the abdominal cavities there was a secondary accumulation of pus which was not detected, and if I find myself in a similar case hereafter, I think I should make a careful exploration. If I did not find the pus which we had reason to believe existed somewhere, I should not have been satisfied with merely removing the appendix, which was done in this case with very great facility, but I should have had a suspicion that there was something more and try to find it. I think it is quite possible that in that case we might have found in the pelvis or somewhere a collection of pus which, if it had been removed, might have had the effect of saving the girl's life. Another point and I will have done. It is a very nice subject and once you get a surgeon started on it it is hard to stop him. It is a subject on which the surgeon is mostly always wound up. One other point I want to make here, and that is the danger of the exploring needle or aspirator. I think we might almost say now that the aspirator has outlived its usefulness. I know very few cases in abdominal surgery where the aspirator is required. I have seen very sad cases indeed, where great injury has been done by it. First by the injury it involves; second, by sepsis, and thirdly by the incomplete diagnosis. There may be cases where you may empty an abscess by the aspirator successfully, but they are exceedingly rare. They generally leave enough behind to insure further trouble. At all events, as far as appendicitis is concerned, it is a paltering, palliative and ineffectual mode of dealing with it. Either do one of two things—trust to nature and general treatment, or explore the abdomen and make a thorough, complete and scientific operation.

Dr. Hill—This interesting discussion has opened my memory, and I recollect a case that I was attending at Brighton, in England, years ago, of a young lady who was suffering from appendicitis, and after a certain time palliatives were used without effect. There was constipation and that was overcome, and she voided no less than eight plum stones, not having eaten plum jam for eight weeks previously.

TREATMENT OF ABORTION.*

By K. N. Fenwick, M.A., M.D.

Perhaps there is no case in practice which gives the physician more anxiety and worry than one of abortion. This is largely due to the diversity of opinion as to its proper treatment, some text books and teachers recommending conservative methods and a plan of waiting and non-interference, while others, including recent writers, insist on the immediate removal of the secundines after the expulsion of the ovum.

Thus Tarnier, who is an advocate of the former method, mentions a case, which is probably a typical result of such treatment as follows:—" During the first five days the patient did very well, but on the sixth I thought I detected a slight odour in the lochia, and at three o'clock in the afternoon a violent chill came on which lasted an hour. This unfortunate lady died on the tenth day. At the post-mortem examination we found the uterine tissues softened and its cavity filled by the putrified and still adherent placenta."

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* Read at the meeting of the Canadian Medical Association, at Ottawa, September 21st, 1892.

Galobin says, "If the fœtus has escaped and the placenta or incipient placenta remains behind it is of the greatest importance to effect an early and complete evacuation of the uterus. Though this principle is generally accepted by all good authorities it is not universally carried out in practice."

The expectant plan is very unsafe, for if we wait till dangerous symptoms set in it may be too late, the patient may either die from loss of blood, or suffer severely from subsequent anæmia, or if she escape this fate she may die of septicæmia, and failing this she may suffer from the effects of inflammation or subinvolution of the uterus, and we all know how many chronic uterine diseases can be traced to a neglected abortion.

Let us look for a moment at the nature of abortion and we see that it is not a physiological process like labor, but an arrest of development and a premature separation of the uterine contents during the first three months of pregnancy, accompanied by tearing and laceration of the connection between the ovum and uterus. This does not always occur in the same way; thus at an early period the ovum may come away entire, including the decidua vera, and leave the uterine surface raw; it may leave the decidua vera behind; later on it may leave the amnion and chorion; and lastly at the end of the third month it may leave the placenta behind.

The contents of the uterus after an abortion being so different, and the size of the uterus varying with those conditions, it will not always be possible to remove them with the finger as we are advised, and so we must in a very large proportion of cases use the curette.

The plan usually divised is to wait even for days, with or without antiseptic precautions, such as vaginal injections of bichloride or carbolic solution. Then should hemorrhage occur it is treated by hot water or the tampon, and should the lochia smell, by antiseptic vaginal or intrauterine injections, and failing with these, the odor persisting and the temperature rising, by a recourse to the curette.

Let us now look at what seems to me a more rational method, and first of all we should consider if it is possible to prevent the abortion. This will depend on the amount of hemorrhage, the severity of the pain, and the degree of dilatation of the cervix. If either of these symptoms are well marked it will be unsafe to predict the arrest of the process, and if all are present, the ovum is sure to come away.

The first thing is rest, rest of body, mind, and nervous system. The patient must be kept in the recumbent position in bed ; the room should be darkened, the attendants quiet, and a full dose of opium administered by the mouth or rectum. Dr. Thomas illustrates this point very impressively by an incident which occurred in his own experience when house surgeon of a New York hospital. The late Dr. Marshall Hall was on a visit, and after criticising the treatment of convulsions by revulsives he remarked,—"Young men let me tell you of an experience of my own. Not long since in London I procured two puppies of equal size and appearance and poisoned them with large doses of strychnia. One of them I treated by keeping it in the light and making counter irritation upon the surface of the body by friction, etc. This puppy died. The other I put down in a deep cellar which was perfectly dark and absolutely quiet, and left him without any treatment. The result was that this second puppy got well."

Should there be a history of previous abortions one should try to find the cause and treat it accordingly. Thus seek for a history of syphilis, cardiac incompetency, retroversion, endometritis, lacerated cervix, etc. If due to fatty degeneration of the placenta the patient should be given Potassic chloride gr. x three times a day. This treatment was first suggested by Sir Jas. Simpson who was induced to use it from some experiments of Davy and Stephens who found that an alkaline salt coming in contact with the blood rendered it of an arterial red color, so he thought that as potassic chloride contained so much oxygen the blood would be better oxygenated and so the fœtus better nourished.

Should no cause be found for the repeated abortions, we have a valuable remedy in Viburnum Prunifolium, first known as a popular remedy among the slaves of the South, recommended by Phares in 1866, and subsequently brought forward to the notice of the profession by Dr. Jenks. I have found it of great benefit myself in these cases and have a patient just now under its influence, who told me only a week ago that her last child's life was due to this medicine and that she would'nt like to be without it in the house during her pregnancy.

If the abortion is inevitable one must not give any more opium, but should endeavour to empty the uterus as soon as possible, believing that the patient is never safe until this is accomplished.

Opium now will prevent theutererine contractions we require to empty the uterus, while ergot is entirely contraindicated in abortion, as it causes spasmodic contraction of the os as well as the fundus and so tends to retain the secundines.

The most urgent symptom, hemorrhage, is arrested by the tampon. This can only be done properly with a speculum and should be carefully applied to the posterior and anterior fornices of the vagina and then fill up the canal as the speculum is removed. the material being wads of absorbent cotton soaked in carbolic solution and squeezed out, or boiled cotton. If these are not at hand, clean strips of rag or bandage may be soaked in disinfectant solution and used in the same way, but sponges and sponge tents should never be used; the latter are relics of barbarism.

The tampon should be left in for twelve hours, and on its removal the contents of the uterus are usually found in the vagina. If the ovum has not come away, but the os is dilated, we should be careful not to rupture the sac unless prepared to remove everything, for such cases if now allowed to go on are not accompanied by much hemorrhage and nature will soon finish them satisfactorily. If the ovum has come away but the secundines still remain they should be at once removed, and we must not wait till septic symptoms set in. We are advised to use the finger, but this can only be done if the uterus is enlarged as it would be towards the end of the third month, and even then the internal os is usually so contracted that the finger cannot be got past it. The patient should be prepared as for an operation, the bladder emptied by catheter. She should be placed on left side in Sims' position, the vulva and vagina thoroughly washed,cleansed, and disinfected with warm bicloloride solution (1–3000), the perineum retracted by Sims' speculum, if the os is not sufficiently dilated use Goodell's dilator, steadying the uterus by a hand outside on the abdomen, and grasping the posterior lip of the cervix with a volsellum, the contents of the uterus are removed with a sharp curette or Simons' spoon, or by placenta forceps. The uterine cavity is then flushed out with warm bichloride solution (1-5000) by means of a Bozemans' tube, and then with hot water to prevent any chance of mercurial absorption.

Should the contents have been putrid the uterine cavity should be packed with iodoform gauze which may be left for 24 hours, and then removed, subsequently using vaginal disinfectants.

Dühen has recently published 150 cases where this treatment has been carried out with only two deaths and neither of these were due to the treatment.

My own common sense and experience lead me to believe that this is the only correct method of conducting these cases.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

Surgical Cases Under the Care of Dr. Shepherd.

(Reported by Dr. C. F. Martin, House Surgeon.)

Case I.—*Ovariotomy four weeks after Confinement; Recovery.*

Mrs. G., aged 26, was admitted to hospital May 27th, 1892, complaining of painful enlargement of abdomen. After last (her second) confinement, four weeks ago, she noticed that the normal decrease in size of abdomen did not occur. The child had been born at full term, and the patient becoming alarmed at her abnormal condition after two weeks, consulted a doctor, who, by tapping, removed two qnarts of dark-brown syrupy fluid, and again, three days later, another quart. Since that time no noticeable change was evident, and patient entered hospital in less than four weeks from confinement with distinct evidences of a large ovarian tumour. Nothing in the personal or family history otherwise bear on the case.

June 1st.—After the usual preliminaries, patient was etherized and Dr. Shepherd made an incision 2½ inches long in the median line from the umbilicus. The peritoneum being cut through the tumour sac was at once reached; this being properly grasped with forceps in two places, a trocar was plunged in and several quarts of thick grumous fluid removed. An effort was next made to extricate the tumour, but this was found to be closely adherent on all sides to the various peritoneal surfaces surrounding it, and was therefore with difficulty removed. The firmest adhesions existed about the bladder wall, from which the tumour was separated only after much trouble. After rapidly separating the numerous adhesions from above and below, the pedicle was duly reached and tied off with several silk ligatures, and the tumour cut away. The parts were well irrigated with boiled water (110°), and numerous bleeding points were found where old adhesions had existed. Of these, some were controlled by ligature and forcipressure, while over the posterior surface of the bladder and other points of the peritoneum the thermo-cautery was found necessary to control the hemorrhage. The wound was next sutured with silkworm gut and a glass drainage tube inserted, resting in Douglas' pouch. The usual dressings were applied.

Patient recovered from the operation without any untoward symptom whatever, and no complication interfered with the further progress of the case. The drain was removed on the fifth day and the stitches on the seventh, good union being found all along the line of incision. On the eighteenth day patient was sitting up in a chair, and on the twenty-third day left hospital to return home.

CASE II.—*Inguinal Colotomy for old Syphilitic Stricture of Rectum; Maydl's Operation modified by Réclus.*

Mdme. D., aged 38, entered hospital July —, 1892, complaining of painful and difficult defæcation, blood and mucus in stools, and general debility. Present illness originated about fifteen years ago, after birth of patient's second child, when her perineum was completely torn across. A prolapsus recti followed, and in 1888 patient was operated on for that complaint, and has ever since been troubled with pain and progressively increasing difficulty in defæcation. Since about the same period patient observed blood and greenish-yellow discharge constantly mixed with the stools, a condition which has of late been much worse. For the past two months patient had come to the hospital where gradual dilatation by rectal bougies had been practised twice weekly, but this being very ineffectual, patient sought admission for more radical treatment.

Personal History.—French-Canadian; married twice. By her first husband, whom she married at 15 years of age, she had two children, the first dying of specific disease, the other now alive and well. Her husband, who died about seven years ago, gave a definite history of syphilis, contracted a short time before marriage. Patient was married for the second time about two years ago, but has had no other children. Family history negative.

General condition on entrance.—Pale and weakly-looking, though in fair state of nutrition. Apart from her present complaint, there is no evidence of any organic disease. The rectum, on examination under ether, showed extensive ulceration, chiefly on the posterior surface as far up as the finger could reach, nor could the limit of the ulceration be seen with the aid of a speculum. In places the diseased portions seemed nodular, not unlike cancer, though the ulceration from general symptoms and history was undoubtedly syphilitic in origin.

July 27.—Dr. Shepherd decided to perform inguinal colotomy, and after the usual preliminaries ether was administered and an incision about 1½ inches long made a little internal to the anterior superior left iliac spine. The skin, subcutaneous tissue and peritoneum being cut through, the large bowel was readily found and hooked up through the wound; a glass rod was next inserted underneath it, through the meso-colon, in order to maintain it *in situ*. The patient's bowels, which had been well emptied for some days before operation, gave no trouble. The usual aseptic dressings were applied.

On August 1st (*i.e.*, 6th day from operation), patient was again taken to the operating-room, and the dressings being removed, the bowel was found firmly adherent to the edges of the wound and the general condition of the patient excellent. The thermo-cautery was now alone used, in order to cut through the bowel transversely, only half the circumference of the bowel was opened and the fæces allowed to escape. Carbolic oil on lint with dry aseptic dressings were applied.

Aug. 3.—Operation was completed to-day, and, as before, the thermo-cautery was alone employed, the bowel being thus completely divided and the glass rod lifted out. Carbolic oil on lint was inserted between the divided ends of the bowel and dressings with jute-pad applied. No anæsthetic was employed for the completion of the operation, nor did patient experience any appreciable amount of pain while the cautery was being used.

Aug. 15.—Dressings have been changed twice daily, and patient has progressed rapidly and favourably from the outset. Wound has entirely healed, except for a few healthy granulations at its lower end. Patient sat up in a chair to-day and wheeled herself around the ward.

Aug. 21.—Walked about the ward, feeling in excellent condition.

Aug. 27.—Wound quite healed; patient has been walking about daily, and left the hospital in far better health than on admission.

Remarks.—This is certainly the colotomy of the future; its simplicity, safety, and the rapidity and ease with which it can be performed is certainly marvellous to one accustomed to the old lumbar colotomy. Maydl recommended suturing the bowel to the abdominal wall and also the mesenteric surfaces of the knuckle of bowel extruded. This was not found necessary by Réclus, who merely passed a glass rod through the meso-colon and thus kept the bowel in place. He used the thermo-cautery to open the bowel on the third or fourth day, and, later, excised the remainder of the protruding bowel; but this is not necessary. Cutting through the whole bowel so as to be able to lift out the glass rod is all the operation required, the cut ends afterwards retracting.

CASE III.—*Compound Fracture of Skull with Loss of Brain Substance; Removal of depressed bone; Recovery.*

M. R., aged 6 years, was brought to hospital in the ambulance, having been thrown from a carriage head first down an open man-hole. Examination showed a long ragged wound over left eye, extending upwards and outwards over left frontal region for about 3½ inches, beginning just above the external angular process. There was much loss of tssue and several pieces of bone depressed into the brain. The wound was filled with dirt from the drain, and small fragments of brain tissue were seen oozing from the wound. The child was in an irritable condition, but quite conscious; pupils neither markedly contracted or dilated, reacted to light, and no paralysis of any kind; speech was not interfered with.

The child was anæsthetized at once, hair removed, and parts well cleansed with soap and antiseptic solutions. Three pieces of bone which were driven into the brain substance were then removed, two being about 1¼in.×¾in. irregularly square, while the third was somewhat smaller. There was free bleeding from the brain. The upper part of the temporal bone, which had been depressed, was elevated and left in place, and the dura mater sutured in three places with iron-dyed silk. The skin wound was next prolonged backwards for about two inches to relieve tension on the external sutures, and the scalp was then closed over, a catgut drain inserted. and part dressed with iodoform, protective, and usual dressings. Patient slept well during the night; temperature rose next day to 100½°, but by midnighh was normal, remaining so throughout the whole period of convalescence.

On the third day after operation the drain was removed, the wound looking very healthy, and union by first intention having occurred. On the ninth day, again dressed and stitches removed, the wound being well closed up; pulsation was distinctly visible where the bones had been removed, but no signs existed of excessive tension. About a week later patient commenced walking about the ward, and on the nineteenth day since operation left the hosptal, there being no signs of complication. Throughout the whole course of treatment patient experienced no pain whatever, not the slightest evidence of disturbance of cerebral functions nor of impairment of general health, while from the second day the temperature remained constantly normal.

Patient returned to hospital two weeks later, having shown no untoward symptom of any kind and being apparently in excellent health. Pulsation was still marked over site of wound.

Remarks.—The result in this case was most satisfactory. The injury of brain substance involved the second left frontal convolution, the centre of articulate language fortunately escaping. When last seen (September, 1892), the child was in perfect health, and only a small pulsating spot could be felt in left fronto-temporal region.

Reviews and Notices of Books.

A Handbook of Hygiene and Sanitary Science.

By George Wilson, M.A., M.D., F.R.S. Edin., D.P.H. Camb. Seventh edition. London: J. & A. Churchill.

This has long been one of the favourite handbooks on hygiene, and the best evidence of its popularity exists in the fact that it has now reached the seventh edition. The general plan of this edition remains as before, although many of the subjects have been rewritten and brought up to date. We notice a new chapter on Meteorology, and the chapter on Vital Statistics has been considerably enforced. One of the most interesting chapters of all is that on Communicable Diseases. A brief, but useful, account of sanitary law, and a summary of the duties of health officers and sanitary inspectors complete this very serviceable book.

A Text-Book of Morbid Histology for Students and Practitioners.

By Rubert Boyce, M.B., M.R.C.S., Assistant Professor of Pathology in University College, London. With 130 coloured illustrations. London; H. K. Lewis, 136 Gower street. 1892.

This is a volume full of interest, and is in striking contrast to the many prosy works on this important subject. The author has succeeded in giving the important facts without discussing vague theories and leaving you in any way to guess at the true meaning. The classification of morbid processes and arrange-

ment of the same show originality and comprehensiveness, while the suggestions thrown out will do much to stimulate research work. The chapters on Inflammation and on Diseases of the Kidney and Lung are among the best on these important subjects, and those not familiar with the latest views will find here the facts up to date. The illustrations, mostly micro-photographs, are not well reproduced, the outlines being indefinite and the fine distinctions not brought out. Both author and publisher are to be congratulated on this very readable and useful publication.

Medical Microscopy. A Guide to the use of the Microscope in Medical Practice. By F. J. WETHERED, M.D. (Lond.), Member of the Royal College of Physicians; Medical Registrar to the Middlesex Hospital and Demonstrator of Practical Medicine to the Middlesex Hospital Medical School; Late Assistant Physician to the City of London Hospital for Diseases of the Chest, Victoria Park. With illustrations. London: H. K Lewis, 136 Gower street.

This publication cannot be said to contain anything that is new, but it is readable and concise, and though not exhaustive, still students and busy practitioners will find much that is useful and nothing confusing. The great advances made from year to year both in description and technique necessitate the appearance of such books as this one. The edition is nicely bound and well printed, and may be kept on the table with the microscope with a good deal of profit.

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Twenty-sixth Annual Report of the Institutions known as Dr. Bernardo's Homes for Orphan and Destitute Children. London.

Compressed Air and Sprays in Diseases of the Nose, Throat and Ear. By Seth Scott Bishop, M.D., of Chicago, Surgeon to the Illinois Charitable Eye and Ear Infirmary, etc. (Reprint from the Journal of the Amer. Med. Assoc., October, 22, 1892.)

Provincial Board of Health of Ontario. Quarterly Report of the Secretary. Oct. 28, 1892.

Pestilential Foreign Invasion as a Question of States' Right and the Constitution. The failure of the Maritime States demands a Common Defence. An address delivered by Joseph Hold, M.D., of New Orleans, Oct. 26th, 1892.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Annual Meeting, October 14th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

The annual meeting for the session 1892-93 was held in the rooms of the Society, 14 Phillips Square, on the above date. There were present Drs. F. W. Campbell, A. Lapthorn Smith, Lachapelle, J. C. Cameron, Alloway, James Bell, J. A. MacDonald, A. D. Blackader, Shepherd, Guerin, Gurd, G. T. Ross, Wesley Mills, Reed, J. J. Gardner, James Stewart, Lafleur, E. H. Blackader, Kirkpatrick, Springle, Williams, G. G. Campbell, E. A. McGannon, McCarthy, Foley, Shanks, Thompson, Vipond, Bruère, McBain, J. Elsdale Molson, Evans, Hamilton, and Kenneth Cameron.

After the minutes of the preceding regular meeting had been read and confirmed, Dr. C. W. Wilson, Dr. A. G. Morphy, Dr. D. J. Evans, and Dr. R. K. Pattee of Vankleek Hill, were elected ordinary members of the Society.

A Case of Pyelo-nephrosis simulating Psoas Abscess.—DR. E. A. MCGANNON, Brockville, read the following report and exhibited the specimens:

W. B., aged 34, bookkeeper. About five years ago, in the course of an examination for life insurance, a small amount of albumen was discovered in his urine. The microscope showed pus cells, but no casts. A second examination at an interval of a week gave the same results. The pus was thought to arise from the bladder, and under a bland diet and the use of Lithiated Hydrangea for several weeks the albumen entirely disappeared from the urine. At this time he had no symptoms, and expressed himself as feeling perfectly well. He continued to obtain good health until two and a half years ago, when I was called to see him, and found him suffering with pain in his right side, which extended down into the groin and right testicle. The pain was constant and kept increasing in severity; soon the right thigh

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Dr. Bell said that when he saw the patient with Dr. McGannon there was an abscess pointing in the iliac fossa which presented all the appearances of a psoas abscess. He was surprised to hear of the result of the autopsy.

Dr. Shepherd mentioned a case of empyema which, at the autopsy, was found to be due to a nephritic abscess bursting into the pleural cavity. The case will be reported in full at a later date.

Scirrhus of the Breast.—**Dr. Lafleur** exhibited a breast removed by Dr. Bell, from which the nipple had entirely disappeared, its place being taken by a large ulcer, one inch in diameter, with pigmented raised edges and a yellow firm base three-quarters of an inch below the surface. On section it was seen that very little of the gland tissue was left, its place being taken by a new growth of a light pinkish colour, which was easily scraped with a knife, but at the edges it was almost cartilaginous; there were some glands in the axilla enlarged. Histologically it is an ordinary scirrhus, plentiful stroma, with cells of an epithelial type in the alveoli. The peculiarity of the case is the predominance of the ulceration over the new growth, which condition is rather uncommon.

Dr. Bell said that the patient from whom the breast had been removed was 64 years of age. She was not very intelligent, so a satisfactory history could not be obtained. Three years ago a small sore appeared at the edge of the nipple; two months ago it became as large as the end of the finger, when it turned black and sore, apparently a gangrenous process; no caustics had been used.

Two Cases of Septic Peritonitis.—**Dr. Lafleur** exhibited the intestine from a man who had died of a septic peritonitis, set up by the perforation of a typhoid ulcer. Clinically the case was one of the ambulatory type, the man had been ailing for about a month. The ulceration was of about three weeks standing, and was not very extensive, the ulcers being few in number, small and scattered, none being confluent, most of them had cleared off, but some still had the slough adherent. About two feet from the ileo-cæcal valve there were some recent patches, with swelling of the whole or portion of the Peyer's patches. The perforation was situated two and a half inches above the valve, ulceration had taken place down to the serous coat, and the perforation was a tear one millimetre broad and three long, extending in the longitudinal axis of the bowel, which is rather uncommon. There are three varieties of perforation—the pin hole perforations, the linear slit in the floor of the ulcer, often due to the tearing of the œdematous coat of the bowel during active peristalsis. He (Dr. Lafleur) had never seen a case in which the whole floor of the ulcer gives way as described by some authors.

The second specimen was from a case of septic peritonitis due to a sloughing appendix. The abdomen was distended and exhibited a fibro-purulent peritonitis, the whole visible cavity was filled up with coils of small intestines much distended. There had been no escape of intestinal contents, so it was a case of purely septic peritonitis. The character of the peritonitis varies with whether there are fæces in the peritoneal cavity or not. When a perforation of a typhoid ulcer occurs, it not infrequently happens that the patient dies from collapse before any very marked inflammatory action takes place in the peritoneum. The most typical fibro-purulent peritonitis occurs in disease of the appendix in which there is no escape of fæces into the peritoneal cavity.

Dr. [illegible] said that the patient had first [illegible] on Saturday last [illegible] but [illegible] until Monday, when he was [illegible] and the [illegible] was performed [illegible] inches long, and [illegible] through [illegible] size of the [illegible] seemed [illegible]

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tion, and had dark vomit. He thought that such cases should not be classified with those of simple abscess.

Laparotomy for Intestinal Perforation in Typhoid Fever; Death.—DR. JAS. BELL reported this case, as follows:—

Lilly S., aged 18, was admitted to the Montreal General Hospital, under the care of Dr. Stewart, on the 2nd of October. Diagnosis: typhoid fever, tenth day. Temperature range, 100° to 104°F. No special symptoms, but decided tenderness in the right iliac fossa. On the night of the 4th (about midnight) she complained of great pain in the abdomen and had four diarrhœa stools. This pain continued increasing in severity during the day of the 5th, and at 8 P.M. vomiting set in. From that time she retained nothing in the stomach. The temperature, which had varied from 101° to 103° during the day, fell at the same time (8 P.M.) to 98°. She had a very bad night, and when I saw her next day (6th), at 3 P.M., at Dr. Stewart's request, she was evidently in great distress. The abdomen was considerably distended, excessively tender all over, and tense and hard to the touch. There could then be no doubt of the existence of a general peritonitis. I immediately decided upon operation, but did not feel justified in proceeding without the consent of her friends. Having obtained this consent, I proceeded to operate at 10 P.M., twenty-six hours after vomiting had set in with fall of temperature, and about forty-six hours after the first sudden onset of pain and diarrhœa. Assisted by Drs. Roddick and Shepherd, I opened the abdomen in the right iliac region along the outer border of the rectus muscle. There was a copious flow of putrid, sero-purulent fluid containing white flocculi, in all, I should judge, between one and two pints. This was washed out thoroughly with warm boiled water, when the appendix vermiformis was brought out and examined. It seemed healthy and was returned, and the ileum carefully withdrawn, beginning at the cæcum. The intestines, as far as they were examined, were all congested, livid, and adherent with recent lymph. About ten inches from the cæcum, in a thick, firmly adherent layer of lymph, a round opening, about two mm. in diameter, was found on the free border of the bowel, from which liquid fæces exuded. This portion of the bowel was brought outside the abdomen, the lymph stripped off, carefully washed, and sponged over with sublimate-solution (1–2000). It was then closed by a continuous Lembert suture of fine silk (double row), running transversely across two-thirds of the circumference of the bowel. The bowel was then returned, and the abdominal cavity in the neighbourhood, especially the pelvis, was again flushed with several quarts of warm boiled water, a large rubber drainage-tube inserted well down into Douglas's fossa, and the abdomen closed. The patient stood the operation well and rallied promptly. She passed wind by the rectum several times during the night, and there was no more vomiting. Next day she was very restless and delirious, and died at 6.40 p.m., twenty hours after operation. Dr. Hamilton, who made the autopsy, reports having found the perforation completely closed and with no evidence of subsequent leakage, and a very extensive general peritonitis, with much lymph and sero-purulent fluid.

Dr. Bell stated that the statistics of this operation as given by Van Hook in an article published in the *Philadelphia Med. News*, Nov. 21st, 1891, shows that up to that time nineteen cases had been operated upon with four recoveries. Of these, however, the diagnosis is said to have been doubtful in the first three cases of recovery—those of Mikulicz, 1884; Escher, 1886; and Taylor, 1891; leaving only one undoubted case (that of Van Hook) of recovery after operation for typhoid perforation. Of course the operation, to be successful, must be done early, hence the necessity for close obeservation and early diagnosis, as operation offers practically the only hope of saving life in these cases. Median incision is generally recommended and suture in the long axis of the bowel.

The minutes of the last annual meeting were now read, and the President called upon the officers for their reports.

The TREASURER (Dr. J. A. MacDonald) reported that the receipts were $1,019.18; the expenditure $855,40, leaving a balance of $163.78 in the funds of the Society.

The SECRETARY (Dr. Kenneth Cameron) stated that at the beginning of the session there were 98 ordinary members and 6 temporary members; 10 new members were elected, and one member died during the year,—thus making a total membership of 113. Eighteen regular and two extraordinary meetings had been held, the average attendance being 30, a greater number than in any previous year—the maximum attendance at any meeting being 40, and the minimum 20. Four important deputations were appointed during the year: the first met the City Council for the purpose of recommending the appointment of a sanitary engineer for the city; the second met the members of the Local Government at Quebec to urge the appointment of a coroner's physician for the city and district of Montreal; the third met the members of the Federal Government to impress upon them the necessity of a thoroughly equipped quarantine service as a means of preventing the introduction of Asiatic cholera into the country, and the fourth met the members of the Board of Health of the city to point out many defects in the sanitary condition of the city and to recommend steps to be taken to overcome them.

The LIBRARIAN (Dr. Reed) submitted the following report: I have the pleasure to report that a marked increase in the use of the reading-room and library has been noted during the year 1891-92. It is much to be desired that superior accommodation for readers should be provided in the new rooms which the Society will be obliged to obtain. It is also evident that more journals and works of reference would greatly add to the attractiveness of the department. The journals have been maintained as before, and the valuable series of London, Philadelphia, New York and Montreal publications have been kept up by binding. The promise of additional reading matter has been made by an esteemed ex-president of the Society.

The address of the retiring president was announced for the next meeting.

The reports were adopted, and votes of thanks to the retiring officers were carried.

The PRESIDENT then called for nominations for office-bearers for the ensuing year, and the following were elected :—

President—Dr. James Stewart.

Other contributions on this subject were:

Adduction following Fracture of the Neck of the Thigh Bone, by Dr. Hodgen, St. Louis; and

Report of a Case of Spontaneous Dislocation of the Hip-joint, by Dr. B. E. McKenzie, Toronto. A woman, 21 years of age, in rather poor general health after the birth of her first child, suffered from subacute rheumatism, and was confined to bed two months. During that time she sat up much, keeping the right knee drawn up nearly to the chin and the hands clasped over it. Three months after her first confinement to bed, examination revealed a dislocation of the head of the femur upon the dorsum ilii. The dislocation was easily reduced under chloroform and kept in position by the wearing of a Thomas' hip splint. A year and a half afterwards there is found to be anchylosis, no shortening or other deformity, and no atrophy.

A paper presented by Dr. Royal Whitman of New York proved to be one of great interest: *Observations on the ultimate Deformity of Potts' Disease.* Dr. Whitman showed a case in which he is employing the Taylor spinal brace with modifications. Proceeding upon the proposition that in the normal erect attitude a perpendicular line passing through the tarsus should pass through the acetabulum and the mastoid process, he aims at keeping the spine from curving forward (when disease is in the middle spinal region) in the dorso-lumbar and high dorsal and cervical regions by the employment of pads in front of the points of the shoulders, sufficiently wide to prevent the arms from being raised up in front, by two pads which keep the shoulder blades closely in contact with the posterior part of the thorax, and by a chin-piece, not intended to carry the weight of the head, but to throw the head sufficiently backward to bring the mastoid processes into the perpendicular line passing through the acetabula. Several of the members had seen this case on different occasions during the last year, and claimed that Dr. Whitman was succeeding in a very unusual degree in preventing deformity.

Dr. Nicholas Grattan of Cork, Ireland, was present, and read a paper on *Osteoclasia*, demonstrating the use of his osteoclast by operating upon three cases of knock-knee and two of bow-legs. To those who admit that there is a place for osteoclasia, Dr. Grattan's instrument must commend itself as the most simple, safe and certain of those given to the profession. The general feeling, however, was that the cases must be few where osteoclasis should be preferred to osteotomy.

Two unusual cases of knee dislocation were reported: *Lateral Dislocation of the Knee-joint due to Local Disease or Paralysis*, by Dr. T. Halsted Meyers, New York, and *A Case of Complete Lateral Dislocation at the Knee due to Traumatism*, by Dr. McKenzie, Toronto.

Dr. A. J. Steele of St. Louis presented a paper which covered much ground and called out a lengthy discussion, viz., *Plaster of Paris in Orthopædics*. For spinal cases Dr. Steele preferred leather, wet and applied so as to fit accurately and then heated to a temperature of 210°F. Dr. Phelps claimed that there was no fixation equal to that obtained by the proper use of plaster-of-Paris. There are many who use it, but do not get the good results that might be obtained because they do not know how to employ it. As a retentive dressing in the treatment of club-foot, Drs. Steele, Phelps, McKenzie, Gillette and others considered it superior to all other means. Drs. Ketch, Judson, Taylor and Schaffer prefer to use various forms of steel club-foot shoes, on the ground that they are more readily removed so as to employ massage to the foot.

Dr. Bradford of Boston presented a most exhaustive and lucid statement of the question of the *Treatment of Resistant Club-foot.* At all ages there are cases where, under an anæsthetic, the foot may be replaced in the corrected position by force alone, without any cutting, employed simply by the hand or various forms of leverage. The next class of cases is found where there are resisting tendons or bands of fascia which may be cut subcutaneously before torsion is applied. Next there comes a class of cases where it is necessary to make an open incision in order to divide the resisting structures more completely, and because the skin is too short to permit correction to be made. Then in some cases correction cannot be fully made, even when all the resisting soft structures have been cut. Under these circumstances Dr. Bradford prefers to remove a cuneiform section from the outer border of the os calcis. Various bone operations, however, have been recommended. Dr. Morton had presented some good cases operated on by removal of the astragalus, and Dr. Bradford had followed his lead, but had concluded that its removal was not justifiable except as a last resort. The cuneiform section taken from the outside of the foot should never be done as a primary operation, and least of all the removal of the astragalus.

Dr. Phelps followed, reviewing the ground most thoroughly, and claiming that there was nothing in Dr. Bradford's paper which had not been taught and published by him (Dr. Phelps) several years ago.

Dr. Grattan and Dr. McKenzie pointed out that there were cases that could not be restored by any of the foregoing methods, cases where in spite of the fact that the foot *per se* was fully restored to its normal shape, yet the patient toed inward, there being evidently a twist in the limb in some part. Dr. L. A. Sayre, Dr. Hetch and Dr. Vance recommended carrying a brace upward to the thigh and even to the body in order to turn the foot outward. Dr. McKenzie, in rely, claimed that such treatment must be ineffectual, inasmuch as apparatus applied about the thigh would turn inward as the foot turned, and if applied about the pelvis would turn the foot outward, by causing external rotation at the hip and would not make correction where the deformity existed. Dr. Grattan recommended osteoclasis of the tibia and fibula and then placing the foot in the position desired. Dr. Phelps recommended an apparatus devised by Beely of Berlin for children, by which the leg was kept flexed upon the thigh, so that the tendency of the foot to turn inward could not rotate the thigh portion of the appliance, and in older persons osteotomy of any part in which the twist was found most marked. Dr. McKenzie took exception to Dr. Phelps' method of operation in which he makes his first step the cutting of the Achilles tendon, on the ground that it is now much more difficult to correct the varus—always the difficult thing to accomplish successfully.

He was sustained in this criticism by Dr. Steele of St. Louis and Dr. Goldthwaite of Boston. Dr. Phelps assigned as his reason for so proceeding because in one case in every ten there was a very strong, deep ligament connecting the posterior part of the tibia to the os calcis, and as this could not be cut without great danger of wounding the posterior tibial artery, it had to be ruptured, and must be done while the plantar surface of the foot remains intact.

Dr. Moore of Minneapolis presented a *Report of Six Cases of Excision at the Knee-joint*, recommending a careful selection of suitable cases and the high incision, four inches above the patella. Dr. Griffiths of Kansas criticised some of the cases as being too radical, an arthrectomy being the operation that was indicated. Dr. Phelps said that arthrectomy had been introduced with a hope of curing the disease and at the same time getting a more able joint. The best surgeons were now agreed that it was better never to try to get movement after operation at the knee, and when operation in the adult was indicated, excision should be performed after Fenwick's method, rounding the femoral segment and hollowing out the tibial so as to get accurate coaptation, avoiding the insertion of nails, if possible, as a means of securing fixation. Under ten years excision should not be performed. If operation is demanded, better amputate.

B. E. McKENZIE, B.A., M.D.

Selections.

The Danger of Milk from Tuberculous Cows. (By E. F. Brush, M.D., Mount Vernon, N.Y.)—The domesticated bovine animal appears to be, above all other animals, subject to tuberculosis. This animal is capable of bearing the tuberculous processes in its natural state ; that is, without breaking down and producing sepsis, which is the cause of death in the disease known variously as phthisis, consumption, and so forth. In other words, a dairy cow will have fulfilled her functions with profit to her owner, and only when she reaches the butcher is it discovered that tuberculous growths are present in various parts of her body. No other animal that I know can be tuberculous for so long a period without exhibiting evidences of the disease, and hence the diagnosis of this disease in the domestic cow is often a very difficult matter. The reason why the domestic cow bears the tuberculous processes without breaking down, is by reason of her natural bodily temperature, her normal average temperature being 102½°. This I have ascertained from personal observation on hundreds of apparently healthy animals, extending over several years. This is about the temperature that arises in the human subject during the stage of active tuberculization, and this high temperature in the human subject is a prominent etiological factor in the constitutional disturbance eventuating in the breaking down of the tubercle that leads to the sepsis producing death. Now this normal temperature of the cow admits of the growth of the tubercle without constitutional disturbance, and consequently the animal's resistance is retained and tuberculous processes attain enormous proportions without affecting the general health or usefulness of the animal. Therefore in order that a cow may develop the tuberculosis that kills, some other morbid agency (traumatism, puerperal septicæmia, etc.) must supervene to set up the breaking down process in the tubercle. When acute miliary tuberculosis takes place in the cow, old tuberculous processes are always found, and the temperature then is increased only a degree and a half. Acute miliary tuberculosis in the cow is a comparatively rare disease, and hence many dairymen, cattle dealers and breeders imagine that tuberculosis is rare or more rare than is reported to exist in dairy cattle for this reason alone, or because so few cases die in comparison with the number of animals afflicted. Therefore these men do not see the latent evidences of disease, their standard of perfect health in dairy animals being the ability of the animal to perform its functions with profit to its owner; and having no comparative standard of health, they regard the animal as sick only when it refuses to yield milk or fatten for the butcher.

Now, what is the danger of milk from tuberculous cows when used as human food? Of course an animal afflicted with acute miliary tuberculosts that kills—and this is the only form of tuberculosis that kills an animal—in this form the milk secretions are suppressed very soon after the onset of the general infection, and as the disease is comparatively rare, milk from these animals is not so common as the literature on the subject would lead one to suppose, while the chronic, latent form of the disease is always more or less present in the ordinary dairies that supply milk for food, and it is very safe to assume that everyone that drinks milk as it is furnished to cities, takes milk from animals afflicted with tuberculosis—the chronic form always, the acute form occasionally. So the question as it seems to me should be, "When is the human subject fit to take the milk from tuberculous cows with impunity?" for there can be little doubt but that in a robust state of health the human being can ingest with impunity the food from tuberculous animals, and probably in many conditions of impaired health such food can be taken without apparent danger. Of course tuberculosis cannot be studied in the same light as other infectious diseases, because the introduction of the poison into the system to-day may require a year or ten years before it is developed into a disease. It is therefore almost utterly impossible for anyone to say in a given case where the infection came from. In the study of this disease, taking isolated or individual cases, where apparent cause and effect stand in close relationship, it is simply a coincidence and is highly misleading. I have watched the medical literature on the subject very carefully for a number of years, and there are a few cases cited where the evidence pointed strongly to the domestic cow as the direct source of infection; in other cases where I have myself known children brought up on the milk of tuberculous cows, there has no evil as yet resulted, and I have never been able to associate any case of tuberculosis in the human subject, infant or adult, directly with a tuberculous cow. I know a girl to-day, 13 years old, whose food for two years after weaning was mainly the milk of a tuberculous cow. The cow, of course, was then affected with chronic tuberculosis, and ultimately succumbed to general infection. The milk was given to this child directly from the cow, and warm, and the child has always been remarkably healthy. About two years ago a friend of mine wanted me to see his cow and say what was the matter with her. I found her suffering from acute pulmonary tuberculosis of the miliary type; she was killed, and we found old tuberculous processes in the mesentery glands. These were not broken down, but a large mass in the mediastinum was broken down and seemed to be the source from whence the general infection spread. The laryngeal glands were also chronically enlarged. This was a family cow, and furnished three children of the household, aged from 2 to 7, with their daily supply of milk. The children, all of remarkably robust health, are perfectly well to-day. But this kind of negative testimony proves no more than the positive testimony that has been thus far accumulated. The disease must be studied, not by isolated cases, but on a broad field. There are some ludicrous instances in the history of the disease illustrating the fallacy of drawing deductions from circumscribed observations. "In 1677 twelve students who had taken their repast in the Convictorium of Leipzig died. At the inquest it was proved that the hotel-keeper had given them, in addition to other food of a bad description, the flesh of emaciated and infected cows, whose viscera were covered with a great number of vesicles, of tubercular nodules, and of purulent tumours. Externally, this flesh did not offer any abnormal appearance." In the light of our knowledge of the present, it is safe to assume that whatever else these students died from, it was not simply the tuberculous meat that killed them. Nevertheless this unfortunate accident stirred up and exaggerated public feeling on the continent of Europe, and most countries passed stringent laws. Three years after the Leipzig accident the German States enacted very severe means to prevent the sale of meat from tuberculous cattle. Butchers were afraid to have anything to do with animals showing the least trace of the disease, the carcases and even the instruments used in slaughtering such cattle were turned over to the public executioner. These measures involved a heavy loss to the cattlemen; it was found that the executioners did not destroy the diseased carcases but consumed them in their own families or sold them to others, and that no injury resulted from the use of the flesh. Then the pendulum began to swing in the opposite direction, and the medical men began to teach that tuberculosis was not a contagious disease, and that the flesh could be eaten with impunity. In fact the meat of tuberculous cows was publicly advertised as of good quality. Zwierlein, a doctor of medicine and philosophy at Brokenau, took twenty pounds of flesh from a tuberculous ox and ate it in order to show that such meat was not injurious. This doctor also prepared a broth made from the nodules of the ox, and drank it in the market-place before a large number of people. Then about this time the various governments began to rescind the various stringent regulations, and the prejudice against the use of such food ceased to exist. Now in our day, with the increased knowledge we possess as to the etiology of the disease, stimulating increased discussion and enlarging the literature on the subject, the public are in danger of adopting the same unreasoning prejudice. I say "unreasoning prejudice," not because I underestimate the danger of the presence of tuberculous animals as food producers, but because the methods heretofore adopted are inadequate and one-sided. I believe firmly that all the tuberculosis that affects the human race is derived from the domesticated bovine, because the only people on the face of the earth who enjoy immunity from tuberculosis are those who do not harbour domesticated tuberculous animals. If this broad statement is true, what does it signify? Can we control the disease by condemning animals only when they come to the butcher, and allowing the milk to be used till he makes the diagnosis for us? If consumption is a contagious disease, and the human race stands in danger of the contagion coming from this most useful food animal, would it not be wise to regulate the breeding of such animals? There are bovines that are reported to enjoy a total immunity from tuberculosis, and so it is possible for us to produce a breed that will not menace the human race. But until the vast number of earnest workers who are moulding medical and scientific opinion unite their forces in this direction, and until we get an animal not tuberculous, we must use our best effort to avert the dangers that now threaten us. I do not believe anybody can tell at what stage of tuberculosis in the cow the milk is safe or becoming dangerous. We have statistical facts enough pointing to the morbid conditions in the human subject creating a receptivity to the contagion. We know that nearly 50 per cent. of diabetic subjects are carried off by pulmonary phthisis; surely we should guard a patient with this disease from the possibility of contagion; also in all other conditions of emaciation and lowered resistance in the adult. With children I have no doubt that the danger is far greater, as their food is solely or chiefly milk. I believe sincerely that a child in perfect health can take the milk from a tuberculous cow with impunity, but a child that is born with a feeble constitution or of tuberculous parent or parents, or suffering from cachexia or any of the wasting diseases, should not be allowed to have milk from a tuberculous cow, no matter what stage of the disease may exist in the cow. As to sterilizing or boiling the milk for these children, the process may or may not eliminate the disease germs—and we have pretty good evidence that boiling does not—but we are certain that either process lowers the nutritive value of a food already below par (if from a tuberculous cow) by reason of the diseased condition of the animal itself. So in the same cases where the milk of tuberculous animals is to be prohibited, the absolute necessity of the highest type of food also necessitates the exclusion of boiled or sterilized milk of any kind. As all cows are not tuberculous, it is perfectly feasible to select animals to supply infant food. As, however, the chronic forms of tuberculosis in the dairy cow are not easily recognized, the medical man knows little or nothing about the cow, and as the American veterinary schools have paid less attention than the subject deserves, there are few people who are able to detect the earliest symptoms. The necessity for more definite knowledge of the cow herself by all practitioners is evident, so that when it becomes necessary to prohibit the use of food that is apt to kill, there should be more people able to detect the morbific conditions at work in the food-producing animal. We can safely assert that in our time tuberculosis will not be entirely eliminated from the dairy cow. We are approaching the period when it will be ; therefore, meanwhile let us guard the susceptible and aid in the advance towards the annihilation of one source of danger to the human race.—*Pract. Monthly.*

The Etiology of Leprosy.—George L. Fitch (*Medical Record*, Sept. 10, 1892) endeavours to answer the question, " What is leprosy, and what causes it ?" The answer, he believes, is : A fourth stage of syphilis, which stage occurs epidemically in races virgin to syphilis, or sporadically in persons whose systems have reverted to a conditiion virgin to the disease, and occurring also in those presenting a distinct neurotic taint, and whose habits have been such—in regard to food supply and manner of living—as would without the before stated conditions produce ordinary scrofula. The paper is too long to give, but he sums up his argument as follows :—

1st. We have the clearest and most unmistakable proof that leprosy is a non-communicable disease, as leprosy, under any circumstance. Cohabitation for many years, inoculation, and drinking the saliva of lepers, have failed in any and every instance to communicate it, and segregation plays no part in preventing the spread of, and non-segregation in spreading, the disease.

2nd. Leprosy invariably follows the introduction of syphilis among virgin races so quickly as to point most strongly to a common origin. We find this exemplified in the case mentioned by Mr. Sturges, where, in the short space of fifteen years, a large number of the inhabitants of an isolated community became lepers, and where there is no evidence that they ever were in communication with a leper—for it is not a supposable case that crews of merchantmen would have cases of leprosy among them, it being a disease which, in a short time, would surely incapacitate a man for the active duties of a sailor's life, even if the disease were communicable, which I cannot believe it to be.

3rd. It is a well-known fact that syphilis, in an immense majority of cases, cannot be acquired under any circumstances a second time. While the twenty cases in which I inoculated syphilis on lepers are not absolutely conclusive, still it is a point worth consideration. The Hawaiian race are so much under the influence of syphilis that no absolutely reliable data can be drawn from experiments in this line with them. It is to be hoped that this experiment should be tried by competent observers under more favourable circumstances. We all know that syphilis is eminently contagious in its primary condition—absolutely non-contagious in its late manifestations. This being the case, would it not follow as a law that the nearer the initial lesion—the chancre—the more active the virus?

4th. By accepting the view I have put forth, we have an easy, natural solution of leprosy—a non-communicable disease after it declares itself as leprosy—spreading as it does spread, and still being in itself non-contagious and non-communicable. In this way, also, we are able to account for those isolated cases of leprosy which now and again appear in communities otherwise free from the disease, and in which the subjects affected with it can never by any possibility have come in contact with it.

In closing this paper, I wish to put one more observation on record, to be worked out, perhaps, in the future. Without going into particulars and statistics to prove the assertion, it would appear to be the case in Hawaii that members of the German race are far more subject to leprosy than those of the British or American. As far as I could compute, their tendency to acquire the disease is four times as great. This estimate, and it is only an estimate, being reckoned on the number of cases in proportion to the total number of each of the above races who are inhabitants of the kingdom. Can it be because the British and American are of mixed race and parentage and the German of unmixed only? If we look over the world we shall find leprosy most prevalent, and continuing its ravages longest, in countries whose inhabitants are of unmixed parentage—China, Japan, India, Norway and Hawaii are instances.

Calomel for Hæmorrhoids.—Dr. J. B. James (*British Medical Journal*) states that he has been treating hæmorrhoids for years by simply applying calomel locally, and without exception his treatment has been successful, especially when inflammation was obvious in the hæmorrhoidal mass, characterized by mucous discharge and hemorrhage. Under this simple treatment the symptoms are speedily relieved, with the still more important subsequent advantage of the patient's restoration to health.

An Unusual Case of Lead-Poisoning from a Bullet.—Küster (*Archiv f. Klin. Chir.*, Bd. 43, Heft 3 and 4) reports the case of a man, aged 30, who received a gunshot wound in the knee during the battle of Mars-la-Tour, the bullet striking him on the outer side of the head of the tibia just below the joint. There was no wound of exit. The wound healed and the patient remained well for over seventeen years, there being very little limitation of movement of the knee. In 1888 he first developed symptoms of chronic lead-poisoning—anæmia, colic, loss of appetite, constipation, lead line on gums, and slight tremors of hand; lead was found in the urine, but no albumen. No change in the pulse, no paralysis, no rigidity of the abdomen. In January 1889, Küster opened up the old wound and found numerous small particles of lead imbedded in the bone and periosteum. The colic lasted for a time after the operation and then completely disappeared. The remarkable feature of this case, that the symptoms of lead-poisoning appeared for the first time after 17½ years, Küster explains in this wise: the ball was splintered by the force of the shot and the pieces were at once encapsuled in new connective tissue. From this was developed a scar tissue, poorly supplied with blood-vessels, and this kept the lead away from the blood and lymph stream. The bone tissue was gradually vascularised until the lead came in contact with the blood.

Sterilization of Rubber Catheters and Bougies.—M. Lanelongue, in *Jour. de Med. de Bordeaux*, recommends keeping these instruments in long glass jars, at the bottom of which are placed several pieces of flannel saturated with mercury. These jars are closed with glass stoppers, and in the mercurial vapour given off from the flannels the sounds retain their calibre and even surface for months. When required for use the instrument is anointed with olive oil kept in a small jar, at the bottom of which is a small quantity of metallic mercury. This is the ideal lubricating material, for if the jars are kept tightly corked the oil remains perfectly sterile.

Epithelioma of the Lip in a Boy.—At a meeting of the Société des Science Médicales de Lyon, June 1892, M. Janin presented a youth aged 14 years on whom he had operated for a cancer of the upper lip. No effect was produced by a course of iodide. Microscopic examination showed it to be an epithelioma.—(*Lyon Médical*, Sept. 4, 1892.)

In the *Lyon Médical*, of October 9, 1892, another case of epithelioma of the lip in a boy aged 14 is reported. This was also treated with iodide of potassium without result, and was finally excised.

Metrorrhagia caused by a Leech.—A woman, aged 56 years, complained of a moderate amount of hemorrhage which would not yield to the ordinary methods. Examination showed a leech attached to the cervix of the uterus. Removal of the unwelcome visitor cured the hemorrhage. The patient was in the habit of bathing in water taken from a pond which contained a great number of Sanguisugæ.

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SYMPHYSIOTOMY.

This is an example of a prophet being of no value in his own time, as, although introduced during the eighteenth century, the operation lay dormant and almost unrecognized until within the last decade, or, if recognized, it was only to hold it and its originator up to scorn, but it now seems about to emerge from its obscurity and to take its place among other obstetrical operations.

It was first suggested in 1768 by Sigault, who was a student of medicine in Paris at the time. At first it was applied to unsuitable cases, and the mortality was very high. Kilian records a maternal mortality of 32 per cent., and fœtal of 63 per cent., in a collected series of 68 cases, so that it is little wonder that the earlier operators were afraid to incur risks for their patients.

Charpentier, in a work published as late as 1889, says: "By reference to the results obtained from modified Cæsarian section, in particular, it is at once apparent that symphysiotomy has nothing to recommend it." Playfair also condemns it unsparingly, apparently because Churchill states that a separation of the symphysis of four inches only increases the conjugate about half an inch. He says that it might be allowable in lesser degrees of contraction, but the risk of the operation and the subsequent ill effects altogether contra-indicate it. Most of the former writers upon the subject based their views upon experiments practised upon the cadaver, where the separation of the symphysis to any appreciable extent was always accompanied by the laceration of the sacro-iliac ligaments, but one should not be influenced in forming an opinion upon such a subject by these experiments, as the natural resiliency of the ligaments in the living is much greater than in the dead.

Although never quite abandoned in Italy, symphysiotomy has never been performed in America, Norway, Russia, Sweden, or Switzerland, and only once in Great Britain. The operation in Great Britain can scarcely be called a fair trial of the method, as the patient was a weakly dwarf, who had been in labour for some time, and the fœtus was not only dead but putrid.

The revival of the operation of symphysiotomy is due to Morisani of Naples and his pupil Spinelli. Morisani has operated several times, and has such faith in the operation that he sent Spinelli to Paris to urge its adoption by the Parisian obstetricians. While in Paris, Spinelli operated successfully on a case before some of the leading surgeons, and succeeded in creating in the minds of those present such a favourable impression, that Farabœuf, Pinard and Tarnier determined to try the operation on the first suitable case which presented itself.

As showing the view now held in France regarding this much abused and neglected operation, here is what Charpentier has recently said upon the subject: "Do not abandon to the foreigner the benefits of an operation which was first successful in our country. Try, once more, symphysiotomy, which, while avoiding all the evil results of embryotomy and Cæsarian section, still too frequent, will allow you to save almost certainly both the lives entrusted to your care. Remember that in this respect you hold in your hands a means of diminishing infantile mortality, an aim towards which all your efforts ought to tend, for now, more than ever, France has need for all her children." This change of sentiment of Charpentier may easily be traced to the great improvement in the mortality, which is due to the cases being properly selected and to strict antisepticism being carried out. Between the years 1886 and 1892, forty-four operations have been performed, with the death of one mother and five children. With such excellent results, we may expect in the future to hear more of Sigault and his operation of symphysiotomy, but we must be ever on our guard to see that the case is one suitable for the operation before attempting it, or it will again fall into disuse.

THE SUPPRESSION OF VIVISECTION.

The great discussion which has been going on lately in England regarding physiological experiments on living animals, or, as the opponents of the practice prefer to call it, vivisection, has pretty well died out. For years the physiologists have remained quiet under abuse and misrepresentation, and when at last stirred up to retort, their opponents hold up their hands in holy horror at the plain and forcible language used. The cause of the late discussion was a book called "The Nine Circles," written by Miss Cobbe, a member of the Society for the Total Abolition and Suppression of Vivisection. This book purported to give an authentic account of some twenty-six cases selected to show the cruelty of this mode of investigation. However, there were twenty fundamental misstatements in these twenty-six cases (*Brit Med. Jour.*), and this provoked Mr. Horsley and others to reply in pretty plain Anglo-Saxon. The leaders of the Society, Canon Wilberforce, Bishop Barry and others, would not retract the statements although the falsity of them was proved, and protested against the use of such strong language against "women and clergymen." As an example of their own moderation in this respect, we notice, in the report of one of their meetings, that Canon Wilberforce applies the expression "inhuman devils" to all experimental physiologists. The same meeting formed itself into an admiration society of Mr. Lawson Tait who came forward, *Athanasius contra mundem*, to champion their cause against all comers and to apologise for his profession. Another medical man, Dr. Berdoe, also joins hands with them, but seems to be more anxious to disclaim any responsibility regarding the accuracy of the quotations in the Nine Circles which he reviewed than to carry the war into Africa. The two luminaries of our profession unite with the members of the Society in stating that no great discovery has been made by means of vivisection. Mr.

Tait says "vivisection is a mediæval method of investigation similar to that of pressing an accused prisoner with weights to make him plead, and the conclusions arrived at are erroneous." Canon Wilberforce is the authority for the statement that Harvey's experiments to prove the circulation of the blood were useless, as that fact was shown by examining the web of a frog's foot under a microscope. This style of argument is carried on *ad nauseam*. We expect that we shall hear next of the anti-vaccinators taking up the cry of cruelty to calves as the basis of their opposition to vaccination, but that, indeed, would be carrying brotherly love a little too far.

A QUESTION OF RESPONSIBILITY.

We take the following from the *British Medical Journal* of November 5th, 1892. As we have had outbreaks of typhoid fever in our schools, hospitals, and other institutions in this city, we think the opinion expressed at the end of the article is worthy of consideration by all who are responsible for the care and maintenance of the buildings used for such purposes.

"We regret to learn that a very serious outbreak of typhoid fever has occurred in the Drummond School for the Daughters of Soldiers. The institution is situated about four miles from Dublin, and contains fifty girls. A few weeks ago one child became ill, and recovered, but soon afterwards several others were attacked, and the number steadily increased to sixteen. Of these, unhappily, four had died at the date of our report. The school was inspected by Sir Charles Cameron, who traced the infection to a latrine. All the patients have been removed to hospital, and the school has been entirely closed, the pupils being sent to a house taken for the purpose. Such deaths should, in our opinion, constitute a ground for coroner's inquest, with a view to determine the responsibility for what are preventable deaths, often due to culpable neglect."

THE CHILDREN AT THE EXPOSITION.

At the World's Fair in Chicago even the children are to have a place. The Board of Lady Managers have taken up the work of building and equipping a beautiful structure which shall be to make the exhibition worthy of the science and of our country.

Such varied sources will naturally produce varied results. Varied results shown in diverse ways will serve to heighten the general interest in the one theme. The theme has but one end in view, the improvement of the "common health."

Applications for Space.—It will be necessary for each exhibitor to make formal application for space to the Director-General, and it is requested that these applications be made as early as possible, in order that the department of liberal arts may be able to prepare an estimate of the amount of room that will be required. On addressing the department of liberal arts at Chicago, a blank form of application will be sent to exhibitors without delay. In all cases where foreign countries have appointed commissioners for the Columbian Exposition, applications for space for exhibits from those countries must be made through such commissioners.

The superintendent of the Bureau of Hygiene and Sanitation invites from experts in any of the branches of the science any suggestions or recommendations that will aid in making the exhibit of the division complete and serviceable.

F. W. BREWER,
Superintendent Bureau of Hygiene and Sanitation.

RAILWAY SURGERY AT THE PAN-AMERICAN MEDICAL CONGRESS.

A section of railway surgery of the Pan-American Medical Congress has been organized, with Dr. C. W. P. Brock of Richmond, Virginia, as executive president. A full list of officers has been provided for each of the constituent countries. At the eleventh annual meeting of the Wabash Railway Surgical Association—the first organization of the kind—Dr. C. B. Steven of Fort Wayne was, by unanimous resolution, requested to prepare a paper on *Organized Railway Surgery*, and read the same before the section on railway surgery of the Pan-American Medical Congress. At the same meeting, Dr. Hal. C. Wyman of Detroit offered the following, which was unanimously adopted: "Resolved, that each member of this Association solicit his congressman to interest himself in legislation in favour of the Pan-American Medical Congress.

Obituary.

GEORGE ROSS, A.M., M.D.,

VICE-DEAN OF THE MEDICAL FACULTY OF McGILL UNIVERSITY.

The profession, not only in this city and country, but also on this continent, has recently sustained a severe loss in the lamented death of our colleague and co-editor—Dr. George Ross. Dr. Ross was born in this city on the 11th of March, 1845. He was the second son of the late Arthur Ross, Esq., Seigneur of Beau Rivage, in the Province of Quebec. His father was also a native of this city, his grandfather, David Ross, being one of the early King's counsel in Canada.

Our friend was educated in Montreal, being the first Davidson gold medallist in the High School. He subsequently graduated in Arts, taking the Chapman gold medal with first class honours in classics. In 1862 he began the study of medicine in McGill University, the Medical Faculty building being at that time in Cotté street. Here also he sustained his reputation as a prize-winner by taking, at the time of his graduation in 1866, the Holmes gold medal given for general proficiency in all the branches of the medical curriculum. He was always known as a steady worker both at the college and at the hospital, and was a universal favourite with his fellow-students. During the summer following his graduation he acted as surgeon on one of the Allan line of steamers, and thus re-established his health which had suffered in some measure from years of close application to study. In the autumn of the same year, on the resignation of Dr. Herbert S. Tew, he was appointed apothecary to the Montreal General Hospital jointly with the late Dr. John Bell. The late Dr. Joseph Morley Drake was house surgeon at this time, and when he resigned a short time afterwards, Dr. Ross was appointed to succeed him. During his stay in the hospital he was distinguished not only for his professional skill and his capacity as an administrator, but also for his kindly and genial disposition, which endeared him specially to his fellow-residents.

In 1872 Dr. Ross went into general practice in this city, and very soon afterwards was elected attending physician to the Montreal General Hospital and received from the Governors of McGill University the appointment of Professor of Clinical Medicine. By his skill, conscientiousness and kindness he soon obtained the confidence of all who came under his care, thus securing in a very short time a large *cliéntele*. The late Dr. George W. Campbell always had the highest opinion of Ross' abilities, and when he retired from practice turned much in his way. Shortly after his appointment to the hospital he devoted himself entirely to the charge of medical cases, giving up all share in surgery, and soon became known as a successful teacher in his department. He had a rare capacity for imparting knowledge, and was a keen and careful investigator and a sharp diagnostician. In 1889, on the death of the late Dr. R. P. Howard, Dr. Ross succeeded to the chair of Medicine, and was also made Vice-Dean under Dr. Robert Craik. He still, however, retained an interest in his favourite clinical work by lecturing at the bedside during the summer session. Among the many professional appointments held by Dr. Ross, the following may be mentioned: President of the Medico-Chirurgical Society of Montreal, President of the Canadian Medical Association, Member and Vice-President of the American Association of Physicians, Secretary to the

Montreal General Hospital, and Representative Governor of the College of Physicians and Surgeons of the Province of Quebec. In this latter capacity he was recognised as a power, his voice being constantly raised in support of every measure calculated to increase the dignity of the profession and to raise the standard of medical education in this Province.

Besides contributing occasional articles on professional subjects, notably the articles on peritonitis and aortic aneurism, in Buck's Encylopædia, he was for many years editor-in-chief of this JOURNAL.

Dr. Ross had been in failing health for three or four years, but could not be induced to relinquish any of his professional or professorial duties, preferring to die in harness.

The above record of Dr. Ross's career shows how much work, valuable to the profession and to mankind, can be crowded into forty-seven years. Such a life is long in deeds if not in years, and is worth an age of mere existence. To those who knew Dr. Ross well this brief record tells a full story, but to others it must necessarily mean less.

Those who assciated with the deceased can never forget the quick, clear intellect, the high tone, and the gentlemanly professional bearing which always characterized the man. He was an unwavering friend ; a man who rigidly eschewed all *ad captandum vulgus* methods ; and one whose manner of life was a model for the young physician. His literary polish combined with his great skill and experience made him an especially acceptable teacher of students at the bedside ; while his bearing towards all was the best possible illustration of the happy union of the skilled physician and teacher with the accomplished gentleman and the true man.

While he instructed a class at the bedside, he never forgot the individuality of his students, and many of them will remember with perennial gratitude his tactful and tender handling of their natures.

His long career as a physician in Montreal was passed without the slightest tarnishing of his brilliant and honourable professional record. Dr. Ross was to the manner born, and it will be hard to fill his place. He resided near the late lamented Dean Howard, who, next to Osler perhaps, was for years his most intimate friend.

How forcibly are we reminded—those who have known and worked with our esteemed and too early departed friend and colleague—that "the night cometh when no man can work!"

RESOLUTIONS OF CONDOLENCE.

At the quarterly meeting of the Governors of the Montreal General Hospital, held Nov. 9th, 1892, the following resolution was adopted :—

"That this Board of Governors have learned with deep regret of the death of their friend and colleague, Dr. George Ross, for many years a member of the Medical Board, and one of their most valued professional advisers in their various medical departments of the hospital and latterly as their secretary. And the Governors further record their deep sympathy with the family and friends of their deceased friend."

At a meeting of the Medical Board of the Montreal General Hospital the following resolution was unanimously carried :—

"*Resolved*,—That the members of the Medical Board of the Montreal General Hospital desire to express their deep sorrow for the loss which they have sustained in the death of their highly esteemed colleague, the late Dr. George Ross.

From long and familiar association with him they had learned to hold him in the greatest respect for his high moral qualities and his distinguished intellectual abilities. Preferred to the chair of Clinical Medicine in the Medical Faculty of McGill University in the year 1872, he had from that time till the date of his death taught this branch of medical science in the wards of the Montreal General Hospital. To the discharge of the duties appertaining to this position he brought a thorough knowledge of the literature of his profession, keen perceptive faculties, a singularly sound and discriminating judgment, and a devotion and perseverance that can only have had their origin in a sincere love of the work.

Few men have been endowed to an equal degree with the faculty of imparting knowledge, and this being associated with a frank, manly sympathetic nature, he never failed to rouse the interest and to stimulate the application of the students of his class.

Honoured by his colleagues, beloved by his patients and friends, revered by his students and respected by all, he has passed from amongst us in the prime of life and at the point of his highest usefulness. His good and faithful work remains.

To the bereaved and sorrowing relatives the Medical Board tender their sincere and heartfelt sympathy."

At a meeting of the Ottawa Medico-Chirurgical Society, held on Friday, Nov. 11th, 1892, it was resolved :—

" That the members of this Society desire to express their most sincere sympathy with the family of the late Dr. George Ross, of Montreal, in the loss they have sustained.

Those of this Society who have studied with or been pupils of the late Dr. Ross, have watched with pride and gratification his onward and upward career in the profession of medicine, and all the members of his profession in Ottawa, in paying a last tribute to his memory, fully recognize the eminence he obtained in that great and noble calling.

For his character as a man, his single-minded devotion as a physician, they desire to express their highest approbation, and they consider that by his death McGill University has lost one of her ablest sons, and the Medical Faculty one of its best and most accomplished teachers."

Personal.

J. A. MacPhail, B.A., M.D. (McGill, '91), has been admitted a Licentiate of the Royal College of Physicians of London.

Dr. D. de J. White (McGill, '90) has been admitted a member of the Royal Colleges of Physicians and Surgeons, Edinburgh, and the Faculty of Physicians and Surgeons, Glasgow.

Medical Items.

A SERIOUS CASE.—According to the *Medical Herald*, a lady from the rural districts took her daughter to town, and, after consulting a number of professors respecting her musical abilities, returned home very much discouraged, and reported to her husband the result of her expedition as follows : " The first professor said that Almira sings too much with her borax. If she keeps on she will get digestion of the lungs. He said she ought to try the abominable breathing and practice solfudgery. Then the next teacher told me she ought to sing with her diagram, and not smother her voice in the sarcophagus. Then the next, he poked a looking.glass down her throat, and said the phalanx was too small, and the typhoid bone and the pollyglottis were in a bad way ; and I never knew that Almira had so many things down her throat, and I'm afraid to let her sing any more for fear it will kill the poor girl."

THE

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Original Communications.

QUEEN'S UNIVERSITY AND MEDICAL EDUCATION.

AN ADDRESS DELIVERED AT KINGSTON, OCT. 14, 1892.

BY SIR JAMES GRANT, M.D., K.C.M.G., OTTAWA, ONT.

The present is a new departure in the life history of the Royal College of Physicians and Surgeons, Kingston. It is a move certainly in the right direction, and one which cannot fail to be productive of good, to the well-being of the medical department of Queen's, which the medical section has now virtually become. Queen's Medical School has been in operation over a quarter of a century, and its graduates are filling positions of trust and responsibility in various portions of the world. One of its founders was a personal friend of my own, the late Dr. Dickson, who was the first President of the College of Physicians and Surgeons of Ontario. His record was a most honourable one, and in his calling he was a noted surgeon and a well known contributor to the literature of the profession. The zeal, energy and ability with which he laboured to carry out the work of this medical school is well known, and the record he made as a man of genuine scientific and professional merit is generally acknowledged. From this time actually dates the very commencement of systematic medical education in the Province of Ontario. True, we had good medical schools and excellent medical men prior to that date, but the Medical Council, in which as first president Dr. Dickson took an active part, gave new life and vigour to the whole subject of medical education in this Province. The curriculum advanced stage by stage to the present high standard of a five years' course of study and a preliminary examination, almost the equivalent of a B.A. degree, in order to meet the demands of our country that only men of educational standing and known ability shall be admitted into the ranks of the medical profession. This is said to be an age of general progress and advancement in almost every line of thought. True, in Canada we have legislative confederation of our various Provinces, and why? In order that there might be a uniformity in trade and commerce and thus understand each other better in all the relations of life. In medical education, however, this idea is not being carried out. What do we find to-day? Each Province legislating for itself in matters medical, and no special effort being made to bring about central examining boards or councils in each Province, of equal standing, so that medical degrees of one Province would pass current in any other Province, without being subjected to a second examination. Failing this course, the only other open is for all the Provinces to agree to a central examining and registering body at the capital, the license of which would be recognised in the entire Dominion. This would require a change in the British North America Act which could be so modified as to meet the requirements of our people, providing each Province agreed to such changes. The present state of medical education must shortly undergo some change in order to give evidence of a progressive spirit in our people, and such can only be brought about by placing the whole subject, so intimately associated with our welfare and prosperity, before the *proper tribunal.* The authorities of Queen's are to be congratulated on the large class of young men entering upon the study of the medical profession, possessing, from general appearances, a fair share of both mental and physical powers—so necessary in life's struggle at the present time.

The student of this date certainly labours under great advantages, surrounded as he is with all the varied appliances for scientific investigation, and a well qualified staff of professors, in the various departments of the medical course. True, our professions are becoming crowded, and yet there is ample room in the upper rungs of the ladder of fame, which can only be reached by care, energy, perseverance and time, an exceedingly important factor in the path of duty and success. Such is truly in keeping with the sentiment of the great American poet—

> "Let us then be up and doing,
> With a heart for any fate,
> Still achieving, still pursuing,
> Learn to labour and to wait."

Our country is large and our population steadily increasing, but not so rapidly as I could wish ; however, with the present energy in that direction, we hope to see the most sanguine expectations fully realized.

The higher functions of medicine are now before you, which even extend beyond the healing of the sick : the instruction of the masses as to the means and methods by which disease may be prevented and death deprived of its supremacy and power. In the medical schools of the present in Canada, sanitary science is one of the chief subjects of study, and by this line of investigation we have hope that in the near future the contagious diseases, like scarlet fever, measles, cholera, etc., will be as effectually stamped out as small-pox is to-day. True, the fluids we drink, such as milk and water, occasionally contain the germs of typhoid fever, scarlet fever and diphtheria, and in this line of investigation how marked have recently been the marvellous results of science and how greatly has the death rate from such causes been reduced. In the path of progressive medicine what a marked change has taken place even in hospitalism, by which such dreaded diseases as puerperal fever and hospital gangrene have been in a great measure stamped out. This is a line of duty and labour worthy of serious thought—how if possible to prolong life, by preventing outside or accidental influences so operating on the human frame as to cut short the vital spark, often in the very prime of life. To be successful in preventing the causes of disease is certainly noble work that will carry blessings to thousands and mark in a most positive manner the progressive character of the age in which we live. It is only within a short period that this truly humanitarian movement has stirred up sanitarians of the world and thus aroused the interest of the general public. The great sanitary congress held last year in London and presided over by H.R.H. the Prince of Wales was an evidence, should such be wanting, illustrative of the deep interest now being taken in public hygiene.

Science has much to do with the possible triumphs of sanitary reform. It is the art, however, not the science alone—the doing, not exactly the knowing, that must take first rank in the medical work of life. It is, in fact, the actual bearing of the necessary training that directs the after life-work of the physician. Doubtless there is great value in science, and in medical practice such science as can be turned to practical account, does far more to build up a professional reputation than *accumulated theories*, which cannot in any way be applied to the really great work of the physician. Doubtless you have profited by the application of this form of medical training, scientific in its character, and at a time of your mental evolution, when the formation of habits of observation is of the greatest possible value. It is the care and accuracy of your observations and practices, the soundness and balance of your judgment, which will alone enable you to turn to practical account the varied knowledge you have acquired. The application of scientific methods and a scientific mind to the problems of disease is actually more than the study of a single life-time. Let man rejoice in the promotion of truth. True, science is ever humble, and discoverers such as Newton and Faraday were the humblest of men. How vigorous have been the attacks on Sir Joseph Lister, the father of antiseptic surgery, and with what commendable spirit he upheld his position, marking beyond doubt the greatness of the man. It is well to be up and doing, keeping pace with every line of advance in our profession. True, we are living in an age remarkable for its discoveries. The younger members must not run away with the idea that the aged fathers in the profession are not likewise progressive. This is a reading age as well, in which current medical literature is almost superabundant, and young and old must labour and continue to work in order to keep anything like pace with the progress of science. The affiliation of the various sciences by the present change in the medical department does away with the isolated form in which matters were previously. Thus the different sciençes take, notwithstanding the diversity of their objects, one and the same development. The one series of ideas brightens and fructifies mental power, the other tends to promote health, strength and general systemic vigour.

When a student graduates, what course should he adopt in order to insure public confidence and gain a practice? When he has selected the place in which he has decided to pursue his professional work, there are points of the greatest possible importance to be investigated. First, study carefully the physical character of the city or country section in which he resides, as to soil, drainage, water supply, food supply, public and private schools, endemics, epidemics and all such influences. Once he has familiarised himself on these points, he is then in a position to give confidence to those he may be fortunate enough to attend professionally. During the past few years the Ontario Government, through the Board of Health Department, has accomplished much in the line of public sanitation, and through energetic exertions the death-rate in this Province has undoubtedly been reduced. A move is now on foot to establish a "Health Institute" at Ottawa for the Dominion; however, such is at present in the incipient stage of development, the only specified information from the Dominion Government (until recently) being the mortuary statistics, issued monthly by the Department of Agriculture. In time we anticipate more energetic action in this direction, as nothing tends more to advance the interests of the public at large than what concerns public health. In country sections the matter of drainage cannot be too clearly observed. How frequently, in farm-yards, the surface liquid from manure heaps drains into the water supply of the animals, thus communicating impurity to the milk supply of the nearest town or city, and frequently becoming a fertile source of disease. What, also, is more important than the careful inspection of meat in order to guard against the spread of such diseases as tuberculosis. True, so far, in Canada our food supply, on the whole, is pure and simple, and yet too much care cannot be exercised as to proper inspection in this direction.

Another point of most importance is the study of *the influence* the present system of education is producing on the germinal intellectual power which must in time guide and direct the best interests of our Dominion. The great effort at present is towards a species of hot-house culture, as far as education is concerned. The multiplication of subjects, even with pliant and undeveloped child-like brains, in the very formative process, becomes a serious problem, and one which cannot be too carefully studied out and directed accordingly. Each thought, each mental evolution is the production of a chemical change in the elements of brain tissue, and thus the successive flashings along the line of continuous mental strain have a powerful effect, not alone on brain structure, but the general systemic powers as well. How is education to be accomplished without brain strain, is a cogent question, and one which will very naturally be asked. Ordinary brain effort is one line of action, but over-strain and excessive brain work is quite another. How frequently is it the case that the highest indications of brain activity in the child by over-strain, and without the parents being aware of the fact, become clouded for the duty of after life. The same result is frequently observed with honour men in university life, although there are exceptions, where inherent physical power, guards the balance and thus upholds the system.

These are points to which I desire to direct the attention of our young graduates, who may have an opportunity of quiet study and patient investigation, while seeking a practice which will grow gradually and surely as public confidence is gained, on these lines of observation.

In conclusion let me say, you have enjoyed the able services of Professor Williamson, who for over forty years has heen connected with Queen's University. He has made a most honourable record, and the influence he has exerci-ed in the development of germinal intellectual power has greatly redounded to the credit of Queen's University. What more honourable calling in life can there be than that of a teacher ? This University is the parent of many, in various distinguished academic positions. Thus the impress of this centre of learning is transmitted from one generation to another. The teachers' work does not die with him. It lives after him, and in the discharge of the honourable responsibilities of life the still small voices hover round; hushed though they be, the impression of the past is there, and is a cheering ideality in the perplexities incidental to a labour of love—*medical duty.* Thus we observe there is a grand connecting link established, which strengthens the attachment and promotes an ever living desire to uphold the honour and dignity of your Alma Mater.

A CASE OF SYMPHYSIOTOMY.*

By J. A. Springle, M.D.,
Lecturer on Anatomy, University of Bishop's College.

Mrs. M. L., I-para, aged 25, of Irish parentage, gives the following history: She has been healthy up to her marriage, four years ago; since then to the date of her pregnancy she has suffered from what a local gynæcologist pronounced to be pyosalpingitis. However she became pregnant and appeared to do well.

On the 4th inst. slight labour pains were experienced and the liquor amnii began to flow away. I saw her on the morning of the 5th, and labour was then active, but the os uteri not fully dilated. The pelvis was found to be contracted. At 3 A.M., dilatation being complete, with no descent of the fœtal head, it was thought expedient to use the forceps. Dr. Gordon Campbell anæsthetized the patient, and a thorough examination of the pelvis and contents made. The head had not engaged and was large. The inlet was circular, with a true conjugate of 75 mm. The succeeding diameters in the pelvic cavity were correspondingly diminished, the small space between the tuber ischii especially so. An attempt an extraction with forceps was unsuccessful. Undue violence was avoided. Crying of the child in utero was distinctly heard by those present. At 9 A.M. Drs. Lockhart and Kenneth Cameron saw the case. The uterus was then tightly contracted upon the child, whose head was tightly filling the inlet. It was easily seen that the pelvis was too small to extract, and symphysiotomy was decided upon.

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* Read before the Medico-Chirurgical Society of Montreal, Dec. 9, 1892.

A median incision over the symphysis, extending three-quarters of an inch above this and passing slightly to the left of the clitoris, was made down to the bone. A vulcanite rod in the urethra drew it over to the right and depressed it away from the incision. Above the pubis the incision was deepened until the loose cellular tissue was reached. The left forefinger was then passed behind, and the position of the urethra being ascertained, the symphysis was cut through. The two sides sprang apart, leaving an interval of over one inch. A pad was placed over the wound and the fœtus rapidly delivered with forceps by Dr. Lockhart, proper support being given laterally to the pelvis. The child was in good condition and not disfigured by the instruments.

The total time was one hour and a quarter from the commencement of the operation until all dressings were completed.

The measurements of the child's head are :

B.P............= 94 mm. in diameter.
F.O. ....=120 " "
M.O............=145 " "
B.T. ....= 88 " "
Shoulders ....=155 " "
Circumference of head......=33.5 cm.
" " shoulders..=40·5 cm.
" " hips ......=28 cm.
Length of child...............=53 c.m.
Weight...................... 3629 grms.

Both mother and child have done well since. There is considerable pain about the left sacro-iliac synchondrosis, due, I believe, to rupture of the anterior ligaments.

Symphysiotomy, or division of the pubic symphysis, has lately been brought prominently before the American profession by Dr. Robt. P. Harris of Philadelphia. On Sept. 20th he read an exhaustive and admirable paper upon the subject before the American Gynæcological Association, setting forth the many claims advanced and good results obtained by Italian obstetri-

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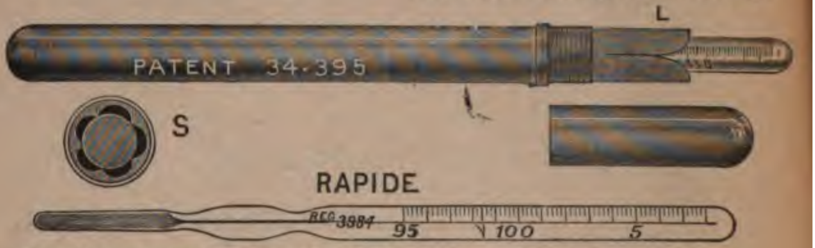

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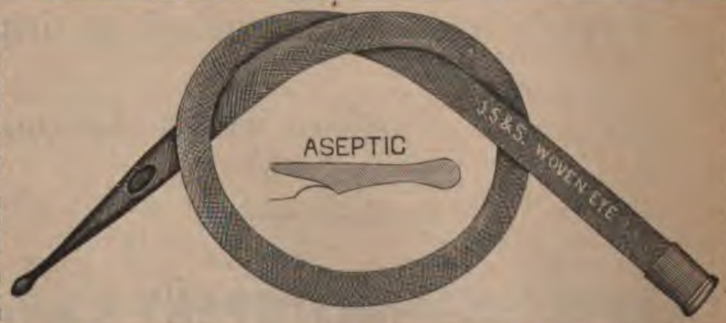

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cians, notably Drs. Morisani and Nori of Naples, and the adoption of the procedure by Professors Leopold, Freund, Porak and others. The operation is becoming popular on the continent, but, as yet, has not gained a foothold in Great Britain.* To Prof. Morisani is due the credit of perfecting this operation. His successes have dispersed the many objections to it, of Sigault, its originator's time.

The first case in America is reported by Dr. Jewett of Brooklyn on the 30th September. Drs. Barton Cooke Hirst and A. S. Broomall have each reported one since. All were successful. The operation is limited to a true conjugate diameter of not less than 2½ to 2¾ inches. It is not applicable to certain deformed pelves (Robert Naegele, coxalgic anchylosis) ; nor should it be applied to cases of cancerous or other growths in the pelvis.

It is claimed that the operation will be conservative in the child's interest to the extent of the abandonment of craniotomy. Moreover, it is said that symphysiotomy will supersede the Cæsarian operation, when the latter is performed for the lesser degrees of contracture to which symphysiotomy is applicable.

Dr. Harris, in his paper, gives interesting statistics in a tabular form of 44 cases collected from various continental sources. One mother died from metro-peritonitis, not supposed to be due to the operation ; five suffered from vesico-vaginal fistulæ. With these exceptions the recoveries were perfect ; the longest period of confinement to bed being 35 days. The results to the children showed five deaths ; of these three were born dead (?), the remainder living for some time after birth. All children dying before three days being counted in the mortalities of the operation.

The greatest comparative size of the fœtal head to the true conjugate was 100 mm. to 67 mm. in a case of Dr. Nori's ; the smallest being in a case of Prof. Freund's, of 110 to 100.

The simplicity of the operation is one of the claims advanced by its advocates. It is said that lameness as a result is very rare, Dr. Harris, in his report, not mentioning a case. The operation has been approved of by Charpentier, Leopold, Porak, Hirst and many others; and if it does all that is claimed for it, it will be welcomed by all.

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* Since reporting the above, I see a case mentioned in the *British Medical Journal*, operated upon by Dr. Smylie, of the Rotunda Hospital, Dublin, on Nov. 22nd.

SOME REMARKS ON GOITRE AND ITS TREATMENT.*

By Thos. R. Dupuis, M.D., M.R.C.S. Eng.,
Professor of Clinical Surgery in the Medical Faculty of Queen's University, Ont.

Goitre is such an exceedingly common disease that very little description is required of it before an audience like this one,—only just what may serve as a definition, so that we may determine the variety of the disease with which we wish to busy ourselves. It is a disease much more frequent amongst women than amongst men, the cause of this being, no doubt, on account of the functional differences between the two sexes. It is also more frequent in youth than in later life. I have not been able to obtain any reliable statistics of its comparative frequency amongst all classes of persons, nor of its relative frequency between male and female; and the difficulty of compiling such statistics will be seen at a glance, when we recollect that it is endemic in some localities and scarcely ever seen at all in others. In certain parts of India, however, it is said that one in every ten is afflicted with goitre. The causes of goitre are now in as much obscurity as they were many years ago. Many theories have been propounded to explain its occurrence, but, as we all know, none of them has proved entirely satisfactory, though some of them seem to meet certain requirements in its production. Humidity of climate as in shaded valleys, qualities of the drinking water, conditions of soil, individual predisposition, heredity, state of ventilation, occupations which fill the veins of the head and neck, as blowing wind instruments, climbing mountains, carrying loads on the head, working in a stooping position, etc., etc.

In the female, her peculiar functions, as menstruation, pregnancy, parturition and the menopause, have no doubt much to do with the development and perpetuation of bronchocele.

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* Read at the meeting of the Canadian Medical Association, at Ottawa, September 21st, 1892.

The parts of the world in which it is endemic may throw some light on the etiology of goitre; nevertheless, such discrepancies arise in any theory to be deduced from these, that but little reliance can be placed upon it.

In Europe, the Alps, Pyrenees, Carpathian Mountains, the Black Forest, Thuringia, the Hartz, Erzegebirge, Riesengebirge, are the localities in which goitre is most common according to Lücke; and in America, the Cordilléras; in Asia, the Himalayas; whereas the mountainous parts of Norway and Sweden, the Highlands of Scotland and the Appenines are comparatively exempt. But there are plains where goitre is very common, as those of the Rhine, Silesia, portions of France, the Punjaub, the valley of the Orinoco, and the plains of Northern Italy, while our own Province, which is certainly flat enough, contains a very fair proportion of goitrous subjects. And just here I may notice one condition which has been enumerated as a cause, namely, the abundance of calcareous matter in the drinking water. Every woman that washes clothes or boils the tea-kettle for a lengthened period is certainly well aware that our Canadian water contains an abundance of lime salts, and hence, as goitre is not at all uncommon in our country, the drinking water may have something to do with it. Low sea-coasts are said to be the most free from this malady, although certain low-lying islands where it prevails are quoted as proofs to the contrary.

The disease has been observed amongst both the aborigines of the country and the negroes, but not to any great extent, so that these races, in this country at least, are almost free from it.

In the valleys and gorges of the Alps cretinism or idiotcy is frequently associated with goitre, and this condition associated with a diseased and useless gland opens up the question of its removal, which we shall deal with later on.

Mr. Bowlby, in his Surgical Pathology, defines the term goitre as "any enlargement of the thyroid gland which is not caused by inflammation or malignant growth." He adds further, "its causes have been much discussed and are not yet satisfactorily settled." Mr. Lemon defines goitre as " all tumefactions of the thyroid gland not due to inflammatory or malignant disease, or to the immigration of parasites." Professor Gross simply says " goitre, technically termed bronchocele, is a chronic enlargement of the thyroid gland." Mr. Timothy Holmes refers to goitre as an endemic enlargement of the thyroid gland, and refers to it also as the " Derbyshire neck," from its prevalence in that part of England called Derbyshire.

From all these definitions, then, we gather that neither the pathology or the causes have entered into its name ; that is to say, the name goitre, from " *guttur*, the throat," has not been differentiated into different pathological conditions as some other long known diseases have been, but stands to-day just as it was known to our great-grandfathers ; showing us thus how little is yet known about it.

As so little seems to be known of the causes and of the true pathology of goitre, I presume we cannot do better than to adopt Mr. Bowlby's classification and pathology, as they seem to accord with clinical observation, besides being about all that is known concerning the structure.

First, then, we have *simple hypertrophy*. In this there is an overgrowth of gland tissue not differing in any way from the healthy gland, whether the whole gland be enlarged, or whether distinct and separate portions enlarge in the form of adenomatous nodules. In this variety the enlargement is usually symmetrical, both lobes as well as the isthmus being affected by the overgrowth. This kind is that which is most common in young females about the period of puberty and, in accordance with my observations, this swelling often subsides spontaneously or is removed by very simple treatment. More often, perhaps, instead of disappearing entirely, it remains stationary for a number of years and then assumes activity again, and grows slowly to an enormous size, extending from ear to ear and almost filling the space from the chin to the sternum. This is the variety which, if it grows rapidly, produces the greatest interference with the circulation, respiration and nerve functions of the nerves of the larynx.

Second, *cystic goitre.* This variety may be a further pathological development in the course of a simple hypertrophy, or it may occur in a thyroid gland hitherto healthy. The cysts are formed by a mucoid or colloid degeneration of the walls separating the vesicles of the gland, thus permitting many to be opened out into one cavity and to form cysts of various sizes. Many times one single large cyst results, but often the cysts are multiple, and a number of these smaller ones occupy the whole substance of the gland. The fluid contained in these cysts varies in its character according to the integrity of the cyst wall. When no capillary oozing of blood has taken place it may be transparent like the fluid from a hydrocele, but when the coats of the vessels have been ruptured by the distension or destruction of a portion of the cyst-walls the fluid may be dark and bloody, with a grumous or coffee-ground-like deposit.

Third, *fibrous goitre.* In this there is an excess of the fibrous or connective tissue over the gland tissue, and it sometimes becomes hard almost like scirrhus and at other times large and pendulous, hanging to the neck by a pedicle composed of skin, vessels, nerves and connective tissue. I remember one case, the largest I ever have seen, in which the goitre was pendulous and as large as the bearer's head, actually lying upon the breast. She was the wonder and disgust of the whole neighbourhood, about half-witted, in fact a very cretin, living in a shanty with a husband as simple as herself and surrounded by a numerous progeny. I used to see her frequently, but she would never allow her goitre to be interfered with, or allow anything to be done for it in the way of cure or removal.

Fourth, *pulsating goitre*, *exophthalmic goitre*, *Graves' disease*, *Basedow's disease.* In this form there is excessive development or dilatation of the vessels of the thyroid gland accompanied by protrusion of the eyeballs and frequently by hypertrophy of the heart. This form of goitre, which is not uncommon, is supposed to depend upon some affection of the cervical sympathetic nerves —it may be paralysis of the vaso-motor branches giving rise to chronic hyperæmia of the vessels of the gland and thus favouring the condition necessary for its production. For further information on this subject see Trousseau.

The effects of goitre on the subject of it varies according to its size, rapidity of growth, and variety. Distension of the vessels of the tumour, and, later on, of those of the head and neck, produces dizziness, headache, faintness, and even convulsions, especially if the carotids are pressed upon. I remember the case of a woman, about 40 years of age, who had been purged, bled and blistered *ad nauseam* for dizziness and headaches, the cause of whose suffering was a hypertrophied thyroid gland. Spasm of the glottis or paralysis of the recurrent laryngeal nerve may result from pressure, as I have seen in several cases. Interference with the air-passages is what we would expect, and so we find difficulty of respiration accompanied with wheezing and a "swimming of the head" after any exertion, due to hard breathing. When the tumour becomes pendulous it does not interfere so much with circulation and respiration as it does when held firmly in its natural site, no matter how large it may grow. The case I have referred to is a proof, as that woman with the large pendulous goitre did not suffer from anything I know of, except the difficulty of getting enough to eat and to wear. Exophthalmic goitre ought to be the most disastrous, as it is certainly the most unsightly, and produces the most alarming train of symptoms—bulging of the eyes, palpitation of the heart, shortness of breath, faintness and great anxiety. In a very severe case of this kind which I treated successfully as much as twelve years ago, I found a loud systolic murmur in the heart with considerable hypertrophy of the whole organ and pulsation and a marked *bruit* in the carotids. Death from bronchocele is not common, and occurs chiefly from those which grow rapidly and are tightly bound down by the fascia and muscles ; still, the deformity and inconvenience resulting from goitre are such as to urgently call for relief.

Now what are we to do with bronchoceles ? What methods of treatment are the most successful in either alleviating or curing the disease ?

Extirpation in many of the larger ones would appear at first sight to be the quickest and most certain method of getting rid of them. On reflection, however, this method is not as practicable as it would seem, and the results are not in most cases satisfactory. The older surgeons, viz., Bonetus, Severinus, Bell, Desault, and some others, who all tried it, had very bad success with their operations, the patients having nearly all died either before the completion of the operation from hemorrhage or shock, or shortly after it from exhaustion. Dupuytren removed a very large goitre from a woman after he had first tied the thyroid arteries, completing the extirpation with a very little loss of blood; but his patient never recovered from the shock, and died within thirty-five hours after the operation. Roux lost a case under similar circumstances, while Girandi of Marseilles saved two patients by it. Desault dissected out the right lobe of an enlarged thyroid successfully; Harris of New York, in 1807, removed a very large tumour from a woman with complete success; and in 1871 Prof. Green of Portland reported three successful cases in his practice. The surgical writers of twenty-five and thirty years ago, and earlier, condemned extirpation. Skey does not approve of the operation, Gross denounces it in most unqualified terms, and many others seem to share the same opinion.

Since anæsthesia and asepsis have come to the surgeon's aid and removed many of the difficulties of extirpation, another danger besides those enumerated attends extirpation of the thyroid gland—namely, the development of myxœdema and cretinism. Sir William Gull and Dr. Ord, by their investigations, showed that the extirpation of the gland or the destruction of its functions by disease was followed by a cretinoid condition and an enormous increase in the quantity of mucin found in the connective tissue of the body, the connective tissue itself being much increased. This condition Dr. Ord called *myxœdema*. About the year 1883, Prof. Kocher of Berne and the Messrs. Reverdin of Geneva observed that the same condition described by Dr. Ord supervened in all their cases of complete removal of the thyroid body, and further, that when the gland was removed in young individuals arrest of the growth of the body seemed to follow as a consequence. Semon holds that cretinism, myxœdema and the German "strumapriva" are merely different phases of the same condition and all due to arrest of the function of the thyroid gland. Professor Paul Bruns of Tübingen reports the case of a bright, intelligent boy, 10 years of age, from whom the whole thyroid gland had been removed. Seventeen years later he exhibited all the symptoms of myxœdema, with stunted growth of the trunk and limbs, increased growth of the head, a retrograde change in the intellectual faculties, and the complete characteristics of a dwarfy cretin. Mr. Victor Horsley, of Britain, succeeded in producing myxœdema in the monkey by extirpating the thyroid gland, and so convinced is he of the utility of the thyroid gland as a mucin-excreting organ, that he believes that its removal or total arrest of its function is followed by all the conditions already enumerated, and finally by death. Prof. Billroth of Vienna, who, it is said, extirpated more thyroid glands than any living surgeon of his time, has stated that he had never seen any unusual symptoms follow after the operation. Some years ago I received two photographs—one before and one after the operation—of a woman from whom Dr. Nelson, then of Montreal, had removed a large goitre · but what has been the sequelæ following the operation I have never learned. The position now seems to be as follows, viz., in favour of extirpation, sudden relief and removal of the deformity; against extirpation, the dangers of hemorrhage, shock, inflammation, nerve injury, myxœdema and cretinism. Having made sure of the nature of the case, and decided not to use the knife, how shall we treat it ?

If the patient live in a goitrous district, removal therefrom is of the utmost value ; and if the drinking water is at fault, boiled water alone should be used. Residence at the seaside, with various preparations of iodine internally and externally, are the usual medicines given for goitre of all kinds. The state of the patient's general health should be looked to, the bowels regulated, the catamenial function properly kept in order, and the appetite not allowed to fail.

I have used iodide of potassium in three to five-grain doses in infusion of quassia three times a day, and sometimes tinct. iodine or Lugol's solution, alternating these with tincture of iron or giving both at the same time, the iron preparation before eating and the iodine after if the case seemed to require such. A favourite external application of mine has been for years, an ointment made of equal parts of iodine ointment and mercury ointment rubbed together into a new ointment, and applied to the goitre twice a day.

Many years ago a "root and herb doctor," as he was called, gave me the following rule for the cure of thick neck. Take strong biniodide of mercury ointment, rub it on the goitre with a bone spatula in the morning after sunrise, the patient at the same time sitting on the east side of the house, so that the direct rays of the sun may strike upon the neck, and continuing to sit there at least one hour. I have had good success with this ointment in recent goitre, but it must be used sparingly as a few applications blister the skin. Long since, I learned that the prescription of the "root and herb doctor" is a favourite method of treating goitre in India. In acute goitres, of which I have treated several, I have found fly blister the best application, having in every case reduced large swellings in a very short time.

The continuous application of cold to the swelling by means of a coil of Leiter's tubes around the neck for three hours at a time, twice a day, and the internal use of hydrofluoric acid in 10♏ doses of a half per cent. solution of redistilled fluoric acid in ℥i of water twice daily, have been recommended for the cure of goitre. The results of both these are very uncertain.

When the foregoing applications fail, injection of iodine into the gland may be tried, or it may be tried before these fail, if one wishes, for I have had some very good results from this method. The following rules are given by Semon to guide the operator in injecting iodine into goitres:

(1) Select cases in which the gland is sufficiently thickened to receive the injection into its substance, and in which interstitial fibroid changes have not progressed too far.

(2) Inject every third day into the gland-substance proper, from 20 to 30 drops of a solution of one part of iodine in twelve parts of absolute alcohol, with a clean hypodermic screw-syringe.

(3) Vary the place of injection as much as possible, and never inject into the same locality twice consecutively.

(4) Avoid wounding superficial veins and injecting air.

(5) Make sure the point of the needle is in the parenchyma of the gland before proceeding to inject: this may be known by the patient swallowing, no motion being imparted to the syringe if the needle is not in the gland; the anterior portion of the syringe rising if the needle is in the gland, and the hindermost part rising if the needle has passed through the gland and penetrated the deeper parts.

(6) Never point the needle towards the trachea or the great vessels of the neck.

(7) Inject very slowly, and carefully observe the effects of the first few drops.

Freezing the surface with ether spray is recommended to prevent feeling the prick of the needle, but I have found that touching the skin, where the puncture is to be made, with pure carbolic acid numbs the sensibility in a very short time and renders the little operation entirely painless.

With all the precautions which can be taken, there is yet a certain amount of risk in this method of treating a bronchocele; the dangers are: 1st, the iodine or air passing into a vessel with the formation of emboli and perhaps sudden death; 2nd, lesion of the pneumogastric or recurrent laryngeal nerve, followed in some instances by spasm and in others by lasting paralysis of the vocal apparatus; 3rd, suppuration and putrefaction of the goitre, blood-poisoning and death. These dangers are fortunately rare, still they exist, and no prudent surgeon would ignore them in proceeding to treat a case of bronchocele.

Cystic goitre I at first treated with the seton, and had most excellent success with it. This was the method of treatment used by Celsus; and since his time it has been practised for a while and then forgotten for a while, thus reviving and dying out alternately up to our own times. From some author I learned that the seton was very risky, although Skey is of opinion that there can be no particular danger connected with it. Gross thinks that if the case is closely watched it is no more dangerous than any other operation, and Semon does not classify it amongst dangerous operations on the thyroid'; and my own experience is decidedly opposed to any particular dangers connected with it.

Of the other methods of treating cystic goitre, viz., puncture with the subsequent injection of an irritant fluid, incision and excision, I have adopted the first, and have found it, in five or six cases operated on, eminently satisfactory. The procedure I have advocated is that followed by Sir Morell Mackenzie,—first emptying the cyst with a trocar and canula, if not very large, but if very large, emptying it gradually by drawing off a portion every day or two till all the fluid is withdrawn. The canula is left in the cyst and fastened there, the outer end being stopped with a plug of soft wool, which can be taken out whenever there is fluid to be let out of the cavity. Through this canula, whenever the cyst is emptied, I inject two or three drachms of a solution of perchloride of iron in water, one part of the former to three or four of the latter, then plug up the canula and leave that and the iron solution in the cyst. This solution I allow to remain for seventy-two hours, at the end of which time I withdraw the plug and allow the contents of the cyst to escape. If the fluid is thin and serous, or quite thin and bloody in character, I use another injection, which I allow to remain from twenty-four to thirty-six hours; the object being to set up a moderate degree of purulent inflammation in the lining membrane of the cyst, so that contraction and permanent closure may follow. The canula is constantly retained in the cyst and is kept plugged except when the contents of the cyst are to be withdrawn. When the discharge ceases to be bloody I apply linseed meal poultices to the neck and keep them applied until the discharge is thoroughly purulent, which may be three or four weeks or even longer. As soon as healthy pus begins to discharge the plug may be left out, and when the discharge notably diminishes, the canula may be withdrawn. The hard nodule that results from the closed sac I treat with iodine ointment or ung. iod. and ung. hdr. ăă. I have cured cases by this treatment in from six weeks to six months, and I highly approve of it. Internal treatment should, of course, be such as would be suitable to any other variety of goitre, and varied to suit the circumstances of the patient.

Exophthalmic goitre is best treated by iron, iodine, digitalis and saline purgatives. I have in my mind now the case of a girl, then about 18 years of age, whom I treated on these lines twelve or fourteen years ago. She was at the time in a very unpromising condition, and her friends gave her up for lost. With iodine, iron and digitalis, bitter tonics, and occasionally sulphate of magnesia internally, and tinct. iodine and soap liniment, alternating with iodine and mercury ointments, mixed in equal parts, and fly blisters, externally on the goitre, this young woman recovered to such a degree as to have lived ever since without experiencing any trouble from her goitre. Trousseau recommends, as wonderfully effective in such cases, the iodide of starch, which he directs to be made extempore by adding from three to eight minims of tincture of iodine to a glass of rice-water.

The foregoing is an outline of my views concerning goitres and of my method of treating them, and I hope that some hints thrown out may be beneficial to somebody in the rush and hurry of practice.

FRACTURE OF THE SKULL FROM THE DISCHARGE OF A SHOT-GUN INTO THE LEFT ORBIT.

By Wyatt Johnston, M.D., Montreal.

(From the Pathological Laboratory of McGill University.)

Owing to the meagre amount of medical literature about the above-mentioned injury, which must be fairly common, and which is of considerable importance from a medico-legal point of view, I have given the results of the autopsy in some detail.

The leading points of the case in point are briefly as follows: George Clay, a coloured man, aged 39, Pullman car porter, in easy circumstances and with no known enemies, left his house at 11 A.M on Wednesday, April 20th, 1891, to go shooting muskrats and pike in the creeks near Lachine, P.Q. He was thought to have about $60 in his purse, and carried a revolver in addition to an old double-barreled, muzzle-loading shotgun. Having expressed the intention of returning for supper the same evening his friends were alarmed when he did not appear. Two days later his body was found, face downwards, in a creek near Lachine, at a point where it passed into a railway culvert, and where a rough bridge was formed by a telegraph pole and a plank lying obliquely upon it. A substance resembling blood and brains was found on the upper surface of this plank and the body lay beneath it in the water. His hat lay in a bush close at hand. A suspicious feature of the case was that the gun was found twenty feet from the body, lying propped up against the railway embankment. The right barrel had been fired. Neither money or revolver were found on the body, though the watch was not missing, and was found to have stopped at six o'clock.

The other circumstances of the case are irrelevant for my present purpose.

A medical man practising in the parish having been called upon to perform an autopsy, deposed to the presence of a gunshot wound of the left orbit, passing in a direction obliquely upwards to the vertex, and an appearance resembling a burn of the left cheek; also a very extensive comminuted depressed fracture of the skull without accompanying hemorrhage. A partial examination only was made, the brain not being removed. About twenty grains of shot were found near the vertex.

The opinion given was to the effect that the gunshot was accidental and had caused death, but that after death the head had been subjected to violence, leading to the fracture of the skull. This finding not being satisfactory to the jury, an examination of the body was ordered, and I happened to be the person selected to perform it.

The only really suspicious element in the case was the distance from the body at which the gun was found, but this was subsequently reconciled with the theory of accidental death by the deposition of a body of Oblat Fathers from a neighbouring monastery, who, while out taking a walk in the afternoon of the day following the tragedy, and twenty-four hours previous to the finding of the body by the deceased's relatives, saw the gun lying on the plank beneath which the body lay. These gentlemen did not feel at liberty to mention the fact of their having seen the body at all until about a week later.

This explanation of the gun being found at a distance from the body was compatible with a theory of accidental death, and the experimental evidence that a gunshot could produce all the injuries found in the deceased of course disposed of the idea of injury to the skull being due in any part to blows on the head inflicted after death, and led subsequently to a verdict of accidental death being rendered.

REPORT OF THE RE-EXAMINATION OF THE BODY OF GEORGE CLAY.

Examination made on the premises of Mr. Armstrong, undertaker, of Lachine, at 3 p.m. on April 25th, 1892, five days after presumed date of death.

The body, which was identified in my presence as that of the deceased George Clay, aged 39, was that of a well-built, well-nourished coloured man, of middle height. Rigor mortis present at all joints. No signs of decomposition. The previous examination had been confined to an examination of the injuries in the head, the only dissection made being an incision in the scalp extending from the root of the nose across the forehead as far back as the vertex. This incision had been closed with sutures. The body was lying in a coffin and was dressed in burial clothes. The face bore signs of having been cleaned since the discovery of the body. A careful examination of the whole body after removal of all the clothes failed to show any injuries or marks of violence excepting those subsequently mentioned in the head. None of the bones were fractured. The hands were open and showed no marks to indicate a struggle. The dirt beneath the nails appeared undisturbed.

Head.—In the region of the left orbit is a large, rounded, lacerated wound, 1¾ inches in diameter, extending from between the left eyebrow to the level of the malar prominence. The edges of the wound are thin, torn and blackened, and show traces of small black grains apparently gunpowder. The entire left eyeball and the contents of the left orbit had been displaced.

The hair and eyebrows were not burned. There were no signs of the skin of the face being burned except at the margins of the wound.* The nostrils were filled with clotted blood. The outline of the cranium showed flattening and depression over the vertex and in the region of the left temple. On pressing lightly with the hands, the cranial bones could be felt to move and crepitate on one another. Owing to the previous examination having disturbed the relation of the parts I was unable to determine what the exact position of the bones had been immediately after the injury as a direct consequence of it.

The scalp was reflected in the usual manner after making an incision from behind the ears passing over the vertex. The scalp was found to be remarkably thick and dense. It showed no trace of external injury. The tissues between the scalp and the bone showed nothing abnormal except a slight amount of ecchymosis in the left parietal region, near the vertex.

After removing the skull-cap by sawing around it below the level of the orbit, the brain was examined. All the pieces of bone were carefully preserved, but it was subsequently found that the portions of bones corresponding to the left lower parietal and frontal regions were missing. Whether this was due to their having been removed at the first examination and not replaced I am unable to say. From the appearance of the soft tissues in this region it appeared as if the injury to the bones had been more severe in this region than elsewhere.

The dura mater, especially in the anterior portion of the falx, appeared to be much lacerated, but the disturbance due to the previous examination made it impossible to state how much of this laceration was due to the effects of the gunshot.

From beneath the skull-cap and in the brain tissue near the vertex I removed 48 grains of No. 4 shot. Most of the grains were much flattened. They weighed altogether half an ounce. Some of the grains were found in the fissures caused by the fractures in the bone.

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* In the report of the previous autopsy a statement was made to the effect that there was a burn on the left cheek. I was not able to find any trace of this at the time when I made the second autopsy. The explanation of this apparent discrepancy probably is that the appearance described as a burn was due to blackening of the face by soot from the powder-smoke. This might be mistaken for a burn. The soot had probably been washed off by the undertaker in laying out the body. In my experiments with gunshot wounds of dead bodies I found always extensive blackening of the skin from smoke, but no burning.

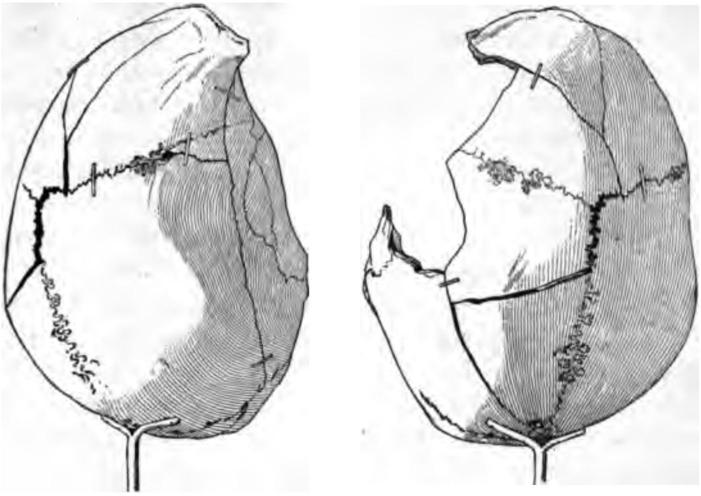
The brain was found to be firm and in good condition; it had not been removed or disturbed at the previous examination. It showed a lacerated area of between two and four inches in diameter, extending obliquely upwards and backwards from the left orbit to the vertex. The laceration was confined to the neighbourhood of the median line, and involved the anterior extremity of the corpus callosum and the inner surface of both hemispheres anteriorly. The left hemisphere was more extensively lacerated than the right, but the inner frontal and orbital lobes on both sides were almost completely disintegrated.

There was very little hemorrhage along the course of the wound, and no large blood-clot was seen. The brain tissue contained a considerable quantity of blood in its vessels and was not pale. The ventricles were normal and free from blood-clot. The ganglia at the base lay outside the track of the wound and were not injured.

After the removal of the brain the posterior half of the left eyeball with the optic nerve attached was found lying to the right of the optic chiasm.

At the base of the skull there was found extensive laceration and fracture in the vicinity of the left orbit, the injury extending over an inch to the right of the median line. The bones of the orbital plate of the frontal, together with the lesser wing of the sphenoid on the left side and the turbinated and ethmoid bones, were comminuted into minute fragments. Except in this region, the base of the skull was free from fracture, and the lines of fracture subsequently described in the skull-cap did not extend as far down as the base.

The whole of the skull-cap was removed to Montreal and prepared and mounted by Mr. J. Bailly, articulator. The location of the lines of fracture will be understood from the following description and from the accompanying



(FIG. 1.)

The cranial bones were thicker and denser than in the case of European skulls, though not unusually thick for an African. The diploe was scanty and the tables relatively thick. The measurements were : thickness in occipital region. 1 cm, of which 5 mm. was taken by the outer table, 3 mm. by greatly sclerosed cancellous tissue, and 2 mm. by the inner table. In the parietal region the total thickness was 7 mm., of which 2 mm. was occupied by outer table, 1.5 mm. by the inner table, and 3.5 mm. by the diploe. The length from glabella to occipital protuberance was 19 cm. (7.5 inches) ; the diameter in mastoid region was 13 cm. (5.3 inches) ; and in the anterior temporal region, 9 cm. (3.5 inches). The skull outline was somewhat unsymmetrical and the thickness in particular spots varied considerably from the means given, being at one point in the right temporal region only 0·5 mm. (one-fiftieth of an inch). Both tables were equally involved in the fracture, and nowhere was any splintering of the inner table observed.

The following lines of fracture were observed, eight in number, including separation of the sutures :

No. 1—A fracture extending forwards from a point in the coronal suture, half an inch to the right of the middle line and running to the left external angular process of the frontal bone.

No. 2—A fracture branching off from No. 1 at a point one inch anterior to the coronal suture and extending to the inner third of the right supra-orbital ridge.

No. 3—A separation of the anterior, 1½ inches, of the sagittal suture.

No. 4—A crooked line of fracture from the left frontal eminence to the left parietal eminence.

No. 5—A continuation of No. 4 from the left parietal eminence to the posterior extremity of the sagittal suture in the region of the Wormian bones.

No. 6—A line of fracture extending from the posterior extremity of No. 3 an inch from the anterior extremity of the sagittal suture and running to the left parietal eminence at the junction of Nos. 4 and 5.

No. 7—A curved line of fracture with the convexity upwards extending from the right external angular process to the right limb of the lambdoidal suture, passing through the parietal bone just above the squamous suture.

No. 8—A separation of the right half of the coronal suture extending three inches from the coronal suture and then continuing as a fracture of the parietal bone and joining No. 7 at a point half an inch posterior to the coronal suture.

On the inner surface of the cranium were seen eighteen small round marks of lead on the bones; these were scattered over an area four inches in length by two inches laterally, and lay along the vertex. Lead marks were also seen on the fractured edges of the bones. None of the shot appeared to have penetrated the bones.

The thoracic and abdominal organs were examined and found free from all traces of violence. The abdomen, on opening, showed the peritoneum to be smooth and the position of the viscera normal. The stomach was very small and looked contracted. The level of the diaphragm corresponded to the third space on the right side and the fourth rib on the left side. The pleural cavities each contained about four ounces of clear reddish serous fluid. The lungs were crepitant throughout; the bases felt sodden; on section both organs were found to be œdematous. Both lungs contained a fair amount of blood; the bronchi were found free from foreign substance; the bronchial mucosa was pale. The heart was small and its ventricles contracted; valves normal. Spleen small in size, normal. Kidneys normal. Bladder contained about 4 ozs. of clear urine. Liver normal, contained a fair amount of blood. Stomach small and nearly empty; contained about two ounces of fully digested food; mucosa normal. Intestines normal.

Microscopical examination of the blood-stained substances found on the plank across the creek showed them to contain brain tissue, recognised in the form of granular detritus and myelin drops. They also contained red-blood corpuscles averaging seven to eight micromillimeters in diameter.

Summary.—The only injury found is a severe gunshot wound of the left orbit, entering the skull in an obliquely upward and backward direction, and lacerating the brain in the area through which it traversed. The severity of the injury was in itself sufficient to cause death. That death was probably not quite instantaneous is probable from the œdema of the lungs, but the absence of severe hemorrhage shows that it must have very soon followed the injury. Loss of consciousness must have been instantaneous from the severe shock. The oblique direction of the wound makes it one which could not well have been intentionally caused by a weapon in the hands of another person than the victim, as it would be impossible to take aim so as to produce this wound except under unusual circumstances, leading to the victim being either several feet higher up than the assailant or else lying down face uppermost. The wound is one which could very well have been caused accidentally by the discharge of the gun while the muzzle was grasped by the hand of the deceased.

The condition of the stomach agrees with the hour at which the watch stopped, placing the hour of death and immersion in the water at 6 P.M. on April 20th, the day of disappearance.

A point of special interest was the totally different character of the cranial fracture in this case from the appearances met with in fractures produced by direct violence from without, such as results from blows or a fall on the head, etc. The difference consists in the marked tendency to separation of the sutures in the case of the gunshot injury of the cranial vault from within, and the fact that the lines of fracture do not tend to run across the base of the skull. This distinction can be readily explained on mechanical grounds when the totally different relation of an arched cavity like the cranium to external and internal shocks is borne in mind. An expansive force acting from within would naturally tend to separate the sutures, while a crushing force acting from without would have no such tendency. An external force impinging on the roof of tho cranial arch makes itself felt earliest and most severely at the base, while an internal force directed upward expends itself entirely upon the roof of the skull.

That this difference in the distribution of the lesions has not previously been noted is perhaps due to the fact that the commonest form in which gunshot or pistolshot wounds at short range present themselves for examination is in the case of suicides, and when the shot is fired through one of the natural orifices, the mouth is that commonly chosen, in which case the base of the sphenoid bone lies directly in the line of fire, and is, naturally, shattered. In cases where the entire skull is not shattered to fragments, the scalp is perforated by the bullet in its exit.

In the present instance it was my fortune to meet with a case where a most extensive fracture of the skull accompanying a gunshot wound of the orbit, made at short range, was not associated with any wound of exit or injury to the scalp.

Thinking that injuries of this nature arising from the careless handling of firearms must be fairly frequent, I carefully searched all the available sources of information in the shape of text-books on medical jurisprudence and medico-legal literature, particularly the files of the *Viertel-jahresschrift für gerichtliche Medicin*, but was unable to find any case where a gunshot wound had fractured the skull from within without producing a wound of exit. I was also disappointed in my expectation of finding parallel cases reported among the forty thousand cases of gunshot wound of the head analysed and tabulated in the *Medical and Chirurgical History of the War of the Rebellion*, or in any special treatises on gunshot wounds and the museum catalogues which I was able to consult.

In anticipation of a possible expression of opinion to the effect that there is no inherent improbability of a fracture of the skull from an injury such as is recorded here, being unaccompanied by any evidences of injury to the scalp, I must state that the experimental investigation on the production of fractures of this nature was undertaken under conditions where the medical evidence at a previous autopsy had led to the presumption that my fracture of the skull had been produced after death by a separate act of violence independent of the gunshot, and that it was necessary to produce objective evidence sufficiently convincing to change the views of a coroner's jury.

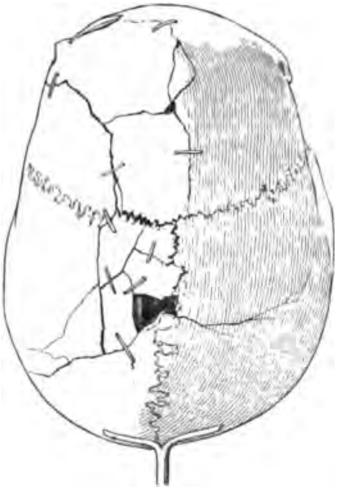
The medical evidence given at the first autopsy had led to the presumption that the fracture of the skull was due to a separate act of violence inflicted through blows from a blunt, smooth instrument, but my own examination convinced me that the gunshot wound was capable of having produced all the fractures found in the skull.

Finding that there are no existing records of autopsies on injuries of this description, I obtained permission from the Attorney-General for the Province of Quebec to make some experiments in order to determine this point. In making these I received valuable assistance from Mr. Bailly.

The following details were observed in my experiments: I employed the gun used by the deceased, using a charge of powder slightly less than 2 drs. to correspond with the amount contained in the measuring cup of the powder flask found on his body: the charge of shot used was three-quarters of an ounce, as this amount corresponded with the amount found within the within the skull.

It will be remembered that the whole effects of the charge were concentrated within an area of an inch and three-quarters, as this was the size of the wound of the face. To prevent the shot from scattering more widely than this, it was found, by shooting at a plank at various distances, that the distance must not exceed three feet.

Having procured a suitable anatomical subject, and taking a somewhat smaller charge of powder corresponding with the thinner skull of my subject, a charge was fired at a range of two and a half feet into the left orbit, imitating as nearly as possible the direction of the wound in the case of Clay. A fracture of the skull (shown in Fig. 2) was produced, which was practically identical with that found in Clay's skull, and the scalp was also found to be practically uninjured, not being perforated by the shot.



(Fig. 2.)

Setting aside the fact that the fracture of the experiment happens to be somewhat more severe than that in Clay's case, as might naturally be expected in dealing with a much thinner skull, there is a wonderfully close resemblance in what I may term the quality of the injury in both cases. Of the eight lines of fracture described above in Clay's skull, no less than seven found their counterparts in the fracture experimentally produced.

A still more striking proof of the close relation between the experimental fracture and that of Clay's skull is that in both there was extensive separation of the coronal and sagittal sutures. In fractures of the skull from the effects of blows or falls on the head, this separation of the sutures appears to be most unusual, if it ever occurs at all.

In the museum of McGill Medical College, amongst numerous specimens of fracture of the skull there is only one which presents this special feature, and this is a case of gunshot wound. The reason of this seems evident when the arched form of the cranial roof is taken into account, as external pressure or violence would tend to press the sutures more closely together, whereas pressure or shock from within would tend to separate them.

That the charge did not penetrate the skullcap and scalp and produce a wound of exit is apparently due partly to the thickness of the skull and partly to the elastic resistance afforded by the extremely thick scalp. In this connection the scattered position of the shot over an area of eight square inches, as indicated by the lead-marks on the inner table, must also be taken into account. The distance of the muzzle of the gun from the head also modifies the effect of the shot, and an increase of the distance lessens the tendency to perforation. Thus I found in another experiment, that with the same charge fired at a distance of one foot only, the shot passed quite through skullcap and scalp and buried themselves deeply in a plank placed behind. That the fracture was in any measure caused by the expansion of gas due to the explosion of the powder does not seem probable. In a third experiment we placed the muzzle of the gun directly against the left eye of a subject with a very thick skull, and with the same charge of powder as in the last-named experiment the whole of the top of the head was completely blown off and the brain entirely disintegrated. In view of the fact that at the intermediate range of one foot a circumscribed perforating lesion was produced without any general, diffuse explosive effect, it is improbable that the explosive force of the shot fired at two and a half feet was the immediate cause of the fracture in Clay's skull.

Another point worthy of consideration in this case is, that the fractures did not run along the base either in the original case or in the experimental fractures. Now it is well known that the most delicate test of violence acting on the cranium from without is the production of a fracture at the base, the force being concentrated there by means of what we are in the habit of calling *contre coup*. Fractures at the base uniformly occur as the result of a blow on the vertex too weak to fracture the bones of the cranial vault, and I have never examined a case of extensive fracture of the skull from external violence without having found likewise fracture of the base.

In addition to the direct and indirect evidence in favour of the violence acting from within rather than from without in the case of Clay, I cannot conceive how such extensive injury of the bones could have been brought about by external violence without leaving traces of injury to the scalp.

The assumption that two separate acts of violence were needed to produce the injuries found in Clay's body seems unnecessary.

As already stated, my reason for reporting the case at such length was the absence of records of similar cases from medical literature. Tho opinion given at the first autopsy that two separate modes of injury had occurred, though to my mind quite erroneous and "far-fetched," could best be controverted by experimental evidence.

Anyone trusting to the information given in textbooks would be completely at fault to find any precedent for assuming that the gunshot had produced all the injuries.

I may also correct a misleading statement current in medicolegal textbooks to the effect that fractures and lacerations unattended by hemorrhage have necessarily been produced postmortem. It was shown by Arnold Paltauf of Vienna, now three years ago (*Wiener klin. Wochenschr.*, No. 37, 1889), that extensive fractures of the skull, ribs and other bones, and even rupture of the liver, may be unaccompanied by any hemorrhage even when the patients live for several hours after the injury, provided that the general blood-pressure is lowered to nearly *nil* by either a profound condition of collapse from shock or a copious hemorrhage from other parts. Blood cannot be extravasated into the tissues unless the intra-vascular pressure at the point of rupture exceed the resistance offered by the tissues.

I would point out in conclusion that my results, while correcting and explaining in some respects those of the colleague who performed the first autopsy, also established the accuracy of his statement that the case was one of accidental death.

My thanks are especially due to Dr. F. J. Shepherd for having furnished me with anatomical material and facilities for the experiments, without which a successful result could not well have been obtained in the short interval afforded by the adjournment of an inquest.

Correspondence.

OUR LONDON LETTER.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

DEAR EDITOR,—After completing their college course many Canadians go abroad to gain further knowledge in the science of medicine and surgery before settling down to their life-work in the practice of their profession.

Very few of those who thus go abroad have definite intentions of what they propose to do, and hence, in nearly every instance, three months or so elapse before any real work is accomplished.

It is in hope that valuable time may be saved to those, who for the first time intend to visit England, that the present article is written.

The time spent abroad by Canadian graduates varies from a period of six months to two or three years, and the question naturally arises how that time may be most profitably employed. The following classification may be made:

1. Those who intend to remain less than one year.
2. Those who remain a year or more.

For those who intend to remain less than a year it is generally conceded that the time may be occupied much better in doing hospital work and in learning more of special subjects than is taught in the ordinary medical course.

Thus a good deal of valuable information may be obtained from attendance at special hospitals for children, women, diseases of the eye, throat, skin, genito-urinary and nervous diseases. During this time the General Hospital need not be neglected.

For those who are to remain a year or more, it is, perhaps, advisable to obtain a British qualification.

The possession of such proves that the man has a good general knowledge of medicine and surgery, and gives him a certain standing with his medical brethren.

It has also its effect on the general public, who look on him as a man who has travelled, and hence supposed to have a certain amount of experience and liberal-mindedness which travel alone brings, while his qualification may be termed the "Hall mark" of his medical education.

And, finally, it provides a fixed aim for a young man in a large city, which aim apparently seems essential to a certain few.

Two degrees are generally striven for :

1. The triple qualification of Edinburgh.
2. The double qualification of London.

The latter is decidedly the better; while the former may be obtained in less time, and is less expensive, it is not as significant of thorough knowledge or held as high in public estimation.

The following comparison may be made of the two degrees:

The requirements for the Edinburgh degree are essentially the same as for the M.R.C.S., L.R.C.P. (London).

A final examination in medicine, surgery and midwifery is only required for the Edinburgh qualification, while for the English a primary examination (in anatomy and physiology) is required in addition to the final.

The hospital facilities in London are much superior to those of Edinburgh.

The fees for the triple qualification (Edinburgh) are twenty-five guineas, twenty of which are returned if unsuccessful; for the English qualification, thirty-five guineas, none of which are returned.

To remain a year in London, obtain the qualification, all expenses would be covered by $800 to $1,000. In Edinbugh less.

Requirements for the English qualification. Candidates who commenced their professional studies on or before October 1, 1884, may go up for the M.R.C.S. or L.R.C.P. alone. Those who commenced their studies after that time must take the double qualification M.R.C.S. and L.R.C.P. (Lond.)

Besides being certified for four winter sessions and one summer session, as in Canadian colleges they must have additional certificates for—(*a*) One other summer session. (*b*) Fifteen months medical and surgical practice (a certificate of being a pupil to a registered practical practitioner for the above period will be sufficient.)

These periods bring the time engaged in professional studies to 45 months, the length of time required by the Conjoint Board.

(*c*) Attendance on not less than twenty cases of midwifery.

(*d*) Having been a clinical clerk in medicine for the period of six months.

(*e*) Having been a clincial clerk in surgery for the period of six months.

(*f*) Having performed operations upon the dead subject to the satisfaction of their teacher.

(*g*) Vaccination. (This must be obtained in England. This can be easily done. Fee, one guinea.)

They shall require to make an affidavit of being twenty-one years of age.

The examinations for the double qualification are three in number, and are held every three months, *i.e.* January, April, etc.

The first examination is granted to colonial graduates, but the fee, ten guineas, must be paid.

The second examination consists of anatomy and physiology. Fee, 10 guineas. These subjects may be passed separately, but both must be passed before the candidate may write on the third or final examination.

If referred (see note) he must pay three guineas for re-examination in each subject failed.

"**Referred**" is a term used to denote that the candidate has been unsuccessful, and that he has been ordered to resume his studies in the subject failed for a certain period (generally three months.) He must also obtain certificates of attendance on the subject for that time.

The final examination consists of surgery, medicine and midwifery. Fee, 15 guineas. The subjects may be taken separately and passed separately.

If referred he must pay five guineas for re-examination in surgery and medicine ; midwifery, three guineas.

The subjects for the second examination—anatomy and physiology—are generally taken up the first three months, and may be most conveniently studied at Cook's School of Anatomy and Physiology, 40 Brunswick Square, W. C.

The anatomical dissections in the museum of the Royal College of Surgeons should also be carefully gone over.

The examination on each subject consists of a written paper of six questions and a viva voce or oral examination twenty minutes in duration.

The following questions have been asked. Three questions shall only be given.

In anatomy :—

1. Describe upper half of ulna, including attachments of muscles and ligaments to it.

2. Course and relations of inferior vena cava. Enumerate its tributaries.

3. Describe the third ventricle of the brain.

In the viva voce the condidate is examined on dissections and on the bones.

In physiology :—

1. Describe the process of respiration—first, in the lungs ; second, in the tissues.

2. What is the composition of bile ? The quantity daily secreted ? What becomes of its various constituents when discharged into the duodenum ?

3. Explain what you understand by a reflex action, giving three examples, stating in each case the nerves concerned.

In the viva voce histological specimens are given, and questions arising from such are asked.

The final examination consists in surgery, medicine and midwifery.

Surgery may be taken next; and, as the examination is a very comprehensive one, three months should be set apart for its preparation.

In preparing his clinical work the candidate is earnestly warned against running from one hospital to another. Choose one general hospital and stick to it. Live beside it if you can.

The general hospitals which offer most advantages to colonial graduates are London, Middlesex and University College Hospitals. In the hospitals, classes are held every three months for those going up for examination, which one may take advantage of.

Surgical pathology can be studied in the museum of the Royal College of Surgeons.

The examination in surgery consists in a written paper of six questions, a clinical examination of twenty minutes, a viva voce on surgical anatomy, bandaging and instruments, of twenty minutes and a viva voce in surgical pathology twenty minutes.

On the paper the following questions have been given:

1. Give the relations of the tonsil; its arterial and nerve supply. State circumstances under which hemorrhage may occur, and give various means of treating it, stating that which you would adopt.

2 Describe the immediate and secondary effects, which may follow a punctured wound of the knee-joint with appropriate treatment.

3. Describe a case of acute glaucoma, and give its pathology and treatment.

In the clinical examination one may get cases of unreduced dislocation of the elbow joint, synovial cyst in the popliteal space, tubercular testicle, recurrent cancer of mamma (in the male), interstitial keratitis, etc.

In the surgical anatomy one may be asked to mark out superficial nerve supply of buttock, incision for ligature of brachial artery. Mark out the kidney. Splints and instruments are given one to name and describe.

The viva voce in surgical pathology consists in questions arising from specimens from the museum of the Royal College of Surgeons. Different tumours, necrosis of tibia, fracture of base of skull, atheroma of aorta, stricture of the urethra, may be among the specimens shown.

The examination in medicine consists in a written paper of six questions, a clinical examination of twenty minutes and a viva voce of twenty minutes in pathology.

[illegible] the paper.

[illegible] emphysema.

[illegible] treatment in the case [illegible] the right Rolandic [illegible]

[illegible] the liver. [illegible] effects.

[illegible] murmur. [illegible] progressive [illegible] been shown.

[illegible] to test various [illegible] specimens are given him, [illegible] pathological specimens as melanotic sarcoma, [illegible] typhoid and tubercular intestines and aneurysm of [illegible]

In midwifery, comprising gynæcology, there are two examinations: a written paper of six questions and a viva voce of twenty minutes.

The following questions have been set in the paper:

1. Describe the normal mechanism of delivery of the after-coming head, the chin being forward and to the right. From what causes may there be difficulty in delivery of the after-coming head, and how would you treat each kind of difficulty?

2. Enumerate the causes of post partum hemorrhage. Give differential diagnosis and describe and explain the treatment you would adopt.

3. Give the differential diagnosis between the gravid uterus [illegible] seventh month and ovarian tumor, ascites and a fibroid [illegible]

[illegible] pathological specimens and instruments [illegible] forceps, to deliver [illegible]

[illegible] searching, [illegible] the Canadian [illegible]

[illegible] examined [illegible]

[illegible] country [illegible] exam-

In conclusion, the question of a degree ought to rest on the time to be spent abroad. If one has plenty of time at his disposal he will never regret that portion spent in obtaining his British qualification.

Yours truly,
J. C. CLEMESHA.

OUR PARIS LETTER.

THE SKIN DEPARTMENT AT THE ST. LOUIS HOSPITAL.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

DEAR EDITORS,—A few words about this hospital—which is one of the oldest, as well as at the present time, one of the largest and most important centres for skin disease—may be of interest.

The hospital buildings are extensive, covering a large area of ground, and are arranged in the form of a quadrangle, with numerous detached buildings forming a second and larger square, the whole being enclosed by a stone wall. They have, for the most part, a venerable and time-stained look, indicating their antiquity, and were, indeed, erected more than a century ago, long before the advent of modern ideas on the subjects of hygiene and ventilation. These defects are, however, being remedied, and a new and more modern building has recently been provided for the accommodation of the library, museum and out-patient department.

The hospital contains upwards of 1,200 beds, and of these more than 700 are devoted exclusively to skin affections. In the out-patient department between 300 and 400 attend daily.

The hospital staff is divided into six more or less independent sections, each having its own wards, its own rooms and laboratories for pathological investigation, for clinical demonstrations, etc., and each presided over by one of the attending physicians, who is amply and ably assisted by some four or five qualified men attached to his department. Each section has, too, one morning in the week for seeing out-patients. Here, in the out-patient department, where so many have to be seen in a limited time, but little opportunity is afforded for the investigation of individual cases. No histories are taken, and in many cases no definite diagnosis made.

Indeed, little more is here attempted than a preliminary sorting out of the patients. As many of the more urgent or interesting cases, as there is room for, are admitted, others are told to return to the wards and laboratories on special days for further investigation and treatment, and the remainder are prescribed for rapidly, a free use being made of bath tickets, of which more anon. During the rest of the week the work of the section consists largely of working up the material thus collected, in addition, of course, to the continued care of the patients already in its wards. The bath-house is one of the features of the St. Louis Hospital, and was, indeed, one of the first institutions of the kind established on a large scale. Here provision is made for medicated baths of all kinds—starch, sulphur, alkaline, hot air, mercurial, etc.,—and, as already mentioned, a very free use is made of them in treating the patients not admitted to the hospital. Over 500 baths are here given daily. Patients are received two or three times a day, at prescribed hours, and are at once distributed into the several departments, according to the colors of their tickets, which indicate the treatment ordered. Simple starch and alkaline baths are those ordered in most cases ; a large number, too, are always sent to the rooms in which the so-called "rapid cure" for scabies is carried out. This treatment has been in use now at the St. Louis (where, indeed, it may be said to have been invented) for many years, and seems to be as efficient and satisfactory as can be expected under the circumstances. The process is as follows : The patients strip and are directed to rub themselves thoroughly for ten minutes with "Savon noir," a semi-soft potash soap, with which they are provided in ample quantity. They next spend forty minutes in a warm bath, where the soap is allowed to dissolve without friction. After this they are rubbed from head to foot with an ointment containing sulphur and mercury, which is to be allowed to remain on, under the clothes, for 24 hours. Next day they return for a warm bath, and at the same time have their clothes disinfected. Upwards of fifty patients undergo this treatment daily, and, as might be expected, tender skins sometimes suffer somewhat severely, and secondary eruptions are not uncommon. When scabies is so common as in Paris, however, some such treatment on a large scale is absolutely required.

Another feature of the St. Louis Hospital is its museum. This contains an unrivalled collection of wax models, representing in a very life-like manner some of the many specially interesting cases which have been here studied and treated. Of these there are at present about 2,000 specimens, arranged and catalogued, and this number is being added to from time to time. Some of those recently executed by Mr. Barretta reproduce with marvellous accuracy the pathological conditions which they represent, and, as may be easily imagined, they afford immense assistance to both teacher and taught.

But little space remains. It is not possible to speak at length of the many specialists who have been, and are, associated with the St. Louis Hospital, and whose investigations have been for the most part carried out within its walls; but no account, however brief, of this centre of dermatological work can be concluded without at least mentioning the names of such men as Ricord, Hardy and Fournier, of Vidal, Hallopeon, Besnier and Brocq, who have so largely contributed to its reputation and helped to make it what it is.

Yours truly,

RANKIN DAWSON.

Reviews and Notices of Books.

The Diseases of the Stomach. By DR. C. A. EWALD, Extraordinary Professor of Medicine at the University of Berlin, Director of the Augusta Hospital. Authorized Translation from the second German edition, with special additions by the author. By MORRIS MARYES, A.M., M.D., Attending Physician to Outdoor Department, Mount Sinai Hospital, New York City. With thirty illustrations. New York: D. Appleton & Co. 1892.

Ewald's work on the Diseases of the Stomach has been received in Germany with great favour. It is the standard work in this department of medicine. It is founded on an extensive and accurate experience in the practical management of diseases of the stomach. Its appearance in English is timely, for up to the present there is no work relating to this subject that represents the recent advances made in gastric pathology and therapeutics. Full descriptions are given of the more recent methods for determining the factor at fault in the various functional affections of the stomach. The English translation is practically the same as the third German edition, the author having added to the translation of the second edition. The translator's work has been well and carefully performed.

A Manual of Medical Jurisprudence. By ALFRED SWAINE TAYLOR, M.D. Revised and edited by THOMAS STEVENSON, M.D. Eleventh American from the twelfth English edition, edited by CLARK BELL, Esq. Philadelphia: Lea Brothers & Co. 1892.

Taylor's Jurisprudence has long been the standard text-book on this subject. Much new matter has been added by Dr. Stevenson in the twelfth English edition, and Mr. Clark Bell has thoroughly revised all prior English and American editions. He cites nearly 700 cases and authorities to aid counsel in preparing briefs and medical experts in understanding the present state of the law in the various States of the Union. In its present form it is almost encyclopædic in character, and will be valuable for reference not only from the medical but also from the legal standpoint. Mr. Clark Bell has been long known as an active member of the Medico-Legal Society of New York, has been its president, has edited several valuable series of medico-legal papers, and has been elected President of the American International Medico-Legal Congress of 1893. He is in every way qualified for his work, and has edited his present work in a manner creditable to himself and his profession.

Accidents and Emergencies. A Manual of the Treatment of Surgical and Medical Emergencies in the Absence of a Physician. By CHARLES W. DULLES, M.D., Fellow of the College of Physicians of Philadelphia and of the Academy of Surgery; Physician to the Rush Hospital, etc. Fourth edition; thoroughly revised and enlarged, with new illustrations. Philadelphia: P. Blakiston, Son & Co. 1892.

This manual is written to give instruction for the treatment of the ordinary emergencies which may arise from accident or illness. It is not at all elaborate in its directions, but is as concise as is compatible with clearness. It is a popular book, written for the public, not the medical profession. In the directions for strapping fractures of the ribs, the strapping should not be stopped at the middle line, but be carried a couple of inches past. Again, albumen is a more reliable antidote for corrosive sublimate than tannin, and therefore should have first place. The book is well printed and the illustrations clear, and it admirably accomplishes the purpose for which it is written.

Memoranda on Poisons. By THOMAS HAWKES TANNER, M.D., F.L.S. Seventh American edition from the last London edition. Revised by JOHN J. REESE, M.D., late Professor of Medical Jurisprudence in the University of Pennsylvania. Philadelphia: P. Blakiston, Son & Co.

This is a handy little manual on a very important subject. There are some slight changes in the text from the last edition so as to bring the work up to date. It is a book for use in

Society Proceedings.

ANNUAL MEETING OF THE MONTREAL BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

The annual meeting of the Montreal Branch of the British Medical Association was held in the Medico-Chirurgical Society Rooms, on Wednesday, the 7th December, 1892, for the election of officers for 1893, and the transaction of routine business.

The following officers were elected :

President—Dr. Hingston (re-elected).
Vice-President—Dr. Roddick.
Hon. Secretary—Dr. J. C. Cameron (re-elected).
Hon. Treasurer—Dr. James Perrigo (re-elected).
Council—Drs. Girdwood, James Bell, and Proudfoot.

It was decided that applications for membership would be received from practitioners in good standing residing in other parts of Canada not under the jurisdiction of other Branches of the Association.

It was also decided that regular meetings be held on the first Wednesday of February, May, October and December for the election of members, reading of papers, etc.

The PRESIDENT (Dr. Hingston) gave a short account of the annual meeting held this year at Nottingham, where he delivered the address on Surgery. He spoke of the great kindness and hospitality shown him, and the interest taken by the officers and members of the Association in the success of the Colonial Branches.

After the election of several new members, the meeting adjourned.

[The annual subscription is $5.50, payable in January of each year, which, among other things, entitles the member to receive the British Medical Journal for the year. Applications for membership should be addressed to the Hon. Secretary, Dr. J. C. Cameron, 941 Dorchester street, Montreal.]

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, October 28th, 1892.

J. B. McCONNELL, M.D., IN THE CHAIR.

Dr. W. S. Morrow and Dr. A. E. Orr were elected members.

The resignation of Dr. J. B. A. Lamarche was accepted.

Interscapulo-Thoracic Amputation. — DR. SHEPHERD exhibited a patient from whom he had removed the upper extremity, performing an interscapulo-thoracic amputation. The patient was now in perfect health. This case had already been reported to the Society. The patient was discharged from hospital well in three weeks.

Inguinal Colotomy.—DR. SHEPHERD reported a case of inguinal colotomy where Maydl's operation had been performed for old and extensive syphilitic stricture of the rectum. The patient, a woman aged 35, had suffered for years from a gradually increasing stricture of the lower bowel. which had from time to time been treated by incision and the passage of bougies. So this summer, coming again under his care at the Montreal General Hospital, he advised inguinal colotomy, which was consented to. The operation, a modification of Maydl's, was performed without difficulty. An incision was made in the left inguinal region, internal to anterior-superior spine of ilium, about two inches long, the peritoneum opened and the sigmoid flexure sought for. This was easily found, the bowel pulled out, and a glass rod pushed through the mesentery or rather meso-colon. No sutures were used, the bowel being left *in situ* covered with dry dressings. At the end of four days the bowel was opened transversely with the thermo-cautery, and at the end of ten days the whole thickness of the bowel was burnt through with the thermo-cautery and the glass rod lifted out, leaving a double-barrelled opening composed of the cut ends of the bowel. After a time the ends of the bowel retracted and a satisfactory false anus resulted. The first operation took about three minutes, the subsequent ones were performed without ether and were nearly painless. The operation is such a simple one that the merest tyro could successfully perform it if only he makes the operation strictly aseptic. The patient is at present in good health, and quite satisfied with the relief afforded by the operation. It was not strictly a Maydl's operation, as that surgeon uses sutures; rather it was Réclus' modification of Maydl's operation.

Dermatitis Exfoliativa.—DR. SHEPHERD exhibited a case of dermatitis exfoliativa in a man aged 55. The eruption was very typical, and commenced first as an eczema of the legs some thirty years ago. It now involves the whole body, the back looking like the bark of an old birch tree. Dr. Shepherd stated that at one time this affection, which is sometimes called *Pityriasis Ruber* was thought to be a fatal affection, but recently opinion has changed, many cases living to old age. The patient shown was seen to be a man in perfect health ; only within the last few months has the disease invaded the whole surface of the body. Dr. Shepherd said that he had at present under his care at the General Hospital another case of the same disease, but in the acute stage, the patient not being in a fit condition to be brought out. His temperature ranged from 99° to 101°, and the whole surface of the skin was intensely red and covered with raised papery flakes of desquamating skin, several quarts of scales being at times taken from his bed. In this case the nails came off and the skin of hands and feet was shed in one piece. The patients were treated with a lotion of calamine, oil and lime-water, which gave great relief.

DR. FOLEY thought that the treatment suggested by Stephen Mackenzie was the best in such cases. During the acute stage an application of glycerole of lead ʒi, glycerine ʒi, water Oi, should be used ; the patient should sleep between blankets. When convalescent a diuretic should be administered with or without quinine, to be followed by hypodermics of pilocarpine and vapour baths.

DR. LAFLEUR asked if the case had begun with a scarlatinaform rash. He had seen a case in Baltimore which began with a severe rash. She had had scarlatina in childhood, and the late appearances were the same as, though less marked than, in this case.

Dr. Shepherd had not seen the case in the early stage. He cited a case of a boy who had five attacks, consisting of rigors, fever and rash, and had been treated for scarlatina, but it was no doubt this disease. Quinine will sometimes cause the same condition, as in the case he had reported last year.

Fracture of Tibia in a Partridge.—**Dr. Shepherd** showed for Dr. Clarke, of Tatamagouche, N.B., the limb of a partridge in which the tibia had been broken and over an inch of new bone formed and united the broken ends. A piece of the original tibia, over an inch long, was coming away as a sequestrum.

Pelvic Dermoid Cyst Removed from a Woman Six Months Pregnant.—**Dr. Wm. Gardner** exhibited the specimen and related the following history: Patient is married fourteen years; has had three full-term children, the last seven years ago. In December, 1890, the tumour was diagnosed and operation advised. Menses absent since April 2nd, 1892. Six weeks ago, when already pregnant to four or four and a half months, had a severe attack of pelvic pain, requiring full doses of morphia. When examined, it was discovered that the tumour was adherent to the floor of the pelvis. Operation was done on October 1st. The tumour was of the left ovary, and being successfully shelled out from its bed of adhesions in the floor of the pelvis, was then easily brought to the level of the abdominal incision and tied off, catgut ligature being used. The size of the tumour was that of a medium orange. It was filled with sebaceous matter and hair, and also contained one tooth. The cyst-wall contained some leathery blood-clot. The recovery was smooth and without any interference with the course of pregnancy. The nature of the tumour and the fact that it was adherent in the pelvis rendered its removal an absolute necessity to save the patient from very great danger from the passage of the child during labour.

Dr. Buller, the retiring President, then read the following address:—

Gentlemen,—When you conferred upon me the honour of the chairmanship of this Society for the past year, I was well aware that the position was one that would be difficult to fill with credit to myself or to your entire satisfaction, coming, as you decreed

I should, immediately after such an illustrious leader in the profession as you will all acknowledge my predecessor was and still continues to be. Nevertheless, I believe I may say, without fear of contradiction, that the devotion of this Society, individually and collectively, to the cause in which and for which it labours enables me to chronicle one of the most successful, and in some respects perhaps the *most* successful year since its organization. This is as should be, for there is no such thing as standing still in the profession to which we belong ; none of us can afford to sit down and rest upon laurels won or reputations established without imminent peril of losing the prize for which we have striven. As it is with each individual, so it is collectively—we must choose between progress and retrogression.

I congratulate the Society that the past year has been one of progress, as shown by the records I shall now present. We have added a goodly number to our list of membership. The average attendance has been a little larger than during any previous year—29.8, or .6 more than last year—and the character of the work done has not been surpassed by that which has been accomplished under any of my predecessors.

I have arranged the contributions of each member, as far as possible, separately, and although this may make dry reading, it forms a sort of ready reference to the work done by the Society, and this, I take it, is the object of a resumé of our annual proceedings. If this lends an undue prominence to certain names, it is because those who bear them have done good work and are well worthy of recognition. As for those who have done little, it may be the means of stimulating them to greater efforts. But, after all, the non-workers are deserving of much credit for regular and faithful attendance. It is nobler, perhaps, to do good silently than with a flourish of trumpets.

The work of the Society has, as usual, been characterized by great interest in pathology, as evidenced by the large number of pathological specimens exhibited. Several of the younger members of the Society have shown a laudable enterprise in this direction. It is to be hoped their example will be followed, in the future, by increasing numbers of the junior members of our

Society. Our heartiest thanks are due several members of the Society who have come long distances to be present at our meetings. These non-resident members of the Society have favoured us with quite a number of valuable papers and reports of cases.

The living cases exhibited have been unusually numerous and highly instructive. A glance at the list of papers and written communications will give a better idea of the merit of this work than any words I could employ in eulogizing the writers or that which they have written.

To Dr. Shepherd we are indebted for a long list of dissecting-room specimens as rare as they are interesting and instructive.

The work of the Society has not been confined this year to the limits of its own meetings. A great and unusual interest has been shown in matters affecting the public welfare, and I cherish the belief that the prestige of our Society has been materially augmented by publicly advocating such measures as may lead to improvement in the sanitary condition of the city, the more efficient administration of justice in all cases of a medico-legal character and in the prevention of epidemic diseases which threaten our country from without.

In a Society so large as ours has become, we must expect every year to have one sad duty to perform—viz., to deplore the departure of some to the great unknown. In the past year I am thankful to say the hand of the destroyer has been graciously withheld, save in one instance. We mourn the loss of Dr. J. J. Dugdale, whom most of us have known for many years as a quiet, unassuming, painstaking, conscientious and honourable practitioner. He lived to do good, and will doubtless receive the reward of true merit.

To facilitate the working of the Society, it was deemed advisable to revise the constitution and by-laws. This has been duly accomplished after thorough discussion and consideration of each and every clause therein contained.

I desire to express my high appreciation of the work done by our indefatigable secretary, Dr. Kenneth Cameron. It is through his untiring zeal and energy that materials have been supplied to sustain that general interest in our proceedings which is essential to the success of every medical association.

The subjoined synopsis of our proceedings for the past year is the briefest possible record of the work done by each individual member.

It remains, gentlemen, for me to thank you all for the kindness and courtesy I have on all occasions met with from every member of this Society, and more especially from those with whom I have been officially associated in the meetings of our council, for with such a council the office of president has been a pleasure, without their advice and association it would have been a difficult and laborious task.

Pathological Specimens.

Dr. Bell—

A pedunculated tumour and a small calculus removed from the bladder of a man aged 68.

Vesical Calculus.

Photograph of a warty growth around the anus of a young man.

A branched renal calculus removed from a man of 36.

A double multilocular cyst of ovary which had ruptured and caused fatal peritonitis.

A small renal and several small vesical calculi.

Sarcoma of femur, with history of the case.

Dr. Shepherd—

Vesical Calculus.

A kidney recently removed ; ditto, a branched calculus.

A kidney which he had removed, the case having terminated fatally from hemorrhage eleven days after operation.

A femoral vein in which a fragment of a fog signal had been imbedded.

Drs. Bell and Mills exhibited photographs of lepers from Honolulu and from British Columbia.

Dr. Alloway—

A specimen of vulvo-vaginal cyst.

Hæmatoma of Fallopian tubes and ovaries.

Carcinoma of ovary removed by him; with some interesting remarks on the relief of collapse following the operation by injecting warm salt water into the abdominal cavity.

Dr. Hingston—

Two lower maxillæ removed for cancer.

An astragalus enucleated by an accident.

Dr. A. E. McGannon of Brockville—

A rare specimen of ovarian tumour in which both bone and cartilage structure were found.

Dr. Lockhart—

A pedunculated fibroid removed from left labium minor.

Dr. George Brown—

A specimen of intussusception from a boy, aged 10, who died of obstruction of the bowels.

Dr. Finley—

A specimen of plasmodium malariæ and one of double hydrosalpinx.

A fibroid heart.

Perforated intestine from typhoid fever patient.

Abscess of the brain; clinical history by Dr. Hutchinson.

Several specimens of miliary tuberculosis; clinical history by Dr. Wilkins.

The heart of a man who had died of angina pectoris; clinical history by Dr. Ross.

Aneurism of the descending aorta; clinical history by Dr. Hamilton.

Specimen from a case of general miliary tuberculosis.

Enchondroma of humerus which, together with the scapula, had been removed by Dr. Shepherd.

Drs. Finley and Armstrong—

A hand removed for epithelial cancer.

Dr. William Gardner.

Two ovarian tumours.

The uterus and ovaries removed from a young woman, aged 26, in the fourth month of pregnancy, complicated with cancer of the cervix uteri.

A small ovarian tumour filled with papillomata.

A large uterine myoma removed by total extirpation.

A uterus removed for cancer by the vaginal method.

Dr. Lafleur—

Two specimens of Perforation of typhoid ulcer.

Hypertrophic cirrhosis of liver.

Atrophic cirrhosis of liver.

Myocarditis ; clinical history by Dr. Stewart.

Enchondroma of Ilium.

The heart and other organs of a case that had died of mitral stenosis ; clinical history was related by Dr. James Stewart.

Sarcoma of testicle.

Tonsils and glands of a case of lymphatic leukæmia ; clinical history of case by Dr. Schmidt.

A specimen of malignant endocarditis.

Thrombotic softening of the pons varolii.

Echinococcus cyst of liver.

Cæcum and appendix of a patient who had died of acute suppurative appendicitis.

General tuberculosis in a child seven months old.

Microscopic specimens of cancer of the ovary and peritoneum ; clinical history by Dr. Finley.

A retro-pharyngeal tumour ; clinical history by Dr. Bell.

Multilocular cyst of ovary (Dr. Bell's case).

Dr. A. Lapthorn Smith—

Ovarian cyst with chronic salpingitis, with report of case.

Cancer of the liver, from a patient whose breast he had removed last summer.

A breast recently removed for cancer, with microscopic sections of the latter.

A polypus of the uterus.

Dr. Smith also showed a new portable laparotomy table designed by himself.

Dr. T. F. Robertson of Brockville—

Fibromatous uterus, with detailed history of case.

Dr. J. B. McConnell—

Sections of sarcoma of forehead, schirrus of breast, and epithelioma of rectum.

Exhibited tube cultures of the bacillus of diphtheria.

Dr. Wyatt Johnston—

Specimens of bothriocephalus latus.

Gunshot fractures of skull.

Living Cases Exhibited.

Dr. Shepherd exhibited a man with an enormous enchondroma of ilium. The same case after successful removal of the growth.

Dr. James Stewart exhibited a young man suffering from Friederich's disease in a very marked degree. He also showed a man suffering from chronic alcoholic poisoning.

Dr. James Bell exhibited a child, five years old, as an example of extensive tuberculosis amenable to surgical treatment. Also an infant on whom he had operated successfully for spina bifida.

Dr. Shepherd showed a woman upon whom he had performed resection of the intestine.

Dr. Hingston exhibited a young woman whose skull he had trephined on account of intense and persistent headache. The report of this case was unfortunately much lacking in detail.

Dr. Armstrong exhibited a man on whom he had operated for appendicitis "during the interval." This was the occasion of a long and most instructive discussion on the subject of appendicitis in all its bearings.

Dr. Bell exhibited a boy for whom he had performed excision of the wrist.

Dr. Armstrong exhibited a case upon which he had operated for contraction of the muscles of the calf of the leg.

Dr. Hingston showed a young man whom he had trephined for depressed fracture of the skull with hemiplegia of twelve years duration.

Dr. Shepherd exhibited a child perfectly recovered from a compound fracture of the skull with considerable loss of brain substance.

Papers.

Dr. A. L. Smith—On two cases of puerperal peritonitis.

Dr. Shepherd—Report of case of umbilical fistula in an infant completely cured by operation.

Dr. Armstrong—" Salpingitis," with special reference to surgical treatment.

Dr. Springle reported a case of rapidly fatal acute meningitis, a sequence of chronic suppurative otitis media.

Dr. Shepherd reported a case in which he had removed a branching calculus from the kidney.

Dr. Springle reported a case of placenta prævia centralis, in which both mother and child were saved. Also a case of nephro-lithotomy, and exhibited the stone.

Dr. Schmidt—Report of a case of Friedreich's disease.

Dr. Duquet read the report of the Medico-Psychological Society of Great Britain and Ireland on the care of the insane. This paper elicited considerable discussion.

Dr. Shepherd reported a case of profuse rash following the administration of a very small dose of quinine.

Dr. J. E. Molson read an interesting paper on the diagnosis of aneurism of the descending aorta.

Dr. McConnell—Acute yellow atrophy of liver.

Dr. A. E. McGannon—On extra-uterine fœtation.

Dr. Smith read a report on five cases of laparotomy.

Dr. James Bell—On gastro-enterostomy.

Dr. Finley—Notes of a post-mortem on a patient who had died of hemorrhage into the right ventricle. The clinical history was given by Drs. Armstrong and Hutchison.

Dr. Smith—On seven cuses of dysmenorrhœa treated and cured by galvanism.

Dr. G. T. Ross—On arterio-sclerosis.

Dr. Bruere—On local motor paralysis after poisoning by charcoal vapour.

Dr. Buller—A short paper on a case of herpes zoster ophthalmicus.

DERANGEMENTS OF THE LIVER.

HORSFORD'S ACID PHOSPHATE

has been used with good effect in diseases of the liver, and biliary disorders, where an acid treatment is indicated, and has especially proved a desirable medium to employ in chronic hepatic affections. By its action it stimulates the liver and promotes an increased flow of bile.

The Acid Phosphate is far superior to the nitro-muriatic acid of the pharmacopœia, in that it serves to assist digestion, and promotes in a marked degree the healthful action of the digestive organs.

Dr. H. P. NELSON, Ashland, Ohio, says: "I have used it in a case of torpor of the liver, and am highly pleased with the results obtained."

Dr. O. G. CILLEY, of Boston, says: "I give it in all cases where there is derangement of the liver, with the most remarkable success. With my patients it has agreed wonderfully."

Dr. E. EVERSHED, Creston, Iowa, says: "I have found it very useful for biliousness. It never fails to give relief in a short time."

Dr. J. F. BARNES, Byron, Miss., says: "I find it an excellent refrigerant in all fevers, and especially in bilious fever when the stomach is very irritable."

Send for descriptive circular. Physicians who wish to test it will be furnished a bottle on application, without expense, except express charges.

RUMFORD CHEMICAL WORKS, PROVIDENCE, R.I.

Beware of Substitutes and Imitations.

WYETH'S BEEF JUICE.

A Liquid Preparation of the CHOICEST BEEF,
containing the Nutritious Albuminous Principles
in an unaltered and soluble form.

A Two ounce Bottle of pure Juice of Meat.

Actual test will show 3 per cent. by weight of ANHYDROUS ALBUMINOIDS.

Contains the Hæmoglobin of the Meat unaltered.

Mix only with Iced or Lukewarm Water; *Never* with Boiling Water, as extreme heat renders the valuable Albuminous Elements insoluble.

Contains Albuminoids in a higher degree than any other Preparation of a similar nature.

Proportion of NUTRIENT to STIMULATING Properties such that it can be retained by the stomach in EXTREME cases of Debility.

Largely Prescribed by the Medical Faculty of the United States, Great Britain and Canada.

Read the following from THE LANCET, London, Saturday, April 30, 1892 :—

ANALYTICAL RECORDS.

WYETH'S BEEF JUICE.

"The following analytical notes and results testify unmistakably to the excellence of this preparation. It is a dark reddish-brown liquid of pleasant beef-like flavour, and free from objectionable preservatives. It contains not only the albuminous principles of beef in an active and solube form, but in the condition in which they occur in the freshly expressed juice of beef itself. Viewed with the spectroscope a dilute solution is seen to give two absorption bands, characteristic of fresh blood or hæmoglobin. The liquid loses this property, however, as soon as it is boiled; while the coagulated albuminous principles assume a blood-red tint. According to our experiments no less than fourteen grains of solid albuminous principles in every fluid ounce are thus precipitated. The following figures gained in analysis will convey some idea of the eminent degree of concentration through which this preparation has been carried. Notwithstanding this, the vital elements of beef juice it contains have been preserved unchanged. Moisture, 44·87 per cent.; organic matter, 38·01 per cent.; mineral matter, 17·12 per cent. The organic materials contain 4·57 parts of nitrogen, and the mineral matter consists largely of common salt and, of course, soluble phosphate. Results like these make it safe to assert that as an example of preparations of this class Wyeth's beef juice is little short of perfection."

DAVIS & LAWRENCE CO., LIMITED, MONTREAL,

GENERAL AGENTS FOR CANADA.

Dr. Johnston—Notes on the results of a post-mortem on a man who had died from intestinal obstruction caused by an impacted gall-stone.

Dissecting-Room Specimens.

Dr. Shepherd presented two greatly atrophied stomachs obtained from two subjects that had died insane, and explained that this peculiarity is not infrequent among that class of persons. A third specimen showed an unusual diverticulum of the urinary bladder. Also

A specimen showing persistence of the right aortic root.

Calcification of the dura mater.

Double paroccipital process.

Ossa supra-sternalis.

Rheumatoid arthritis of the axis and atlas.

Meckel's diverticulum.

A fœtal puppy without mouth or eyes.

Skeleton of a double human monstrosity after the type of the Siamese twins.

A secondary astragalus.

A great toe which had been crushed off.

A fissured sternum.

Separation of lamina of fifth lumbar vertebra.

Kidneys with irregular blood supply.

Cases in Practice.

Dr. F. W. Campbell related a case in which excessive swelling of the finger necessitated removal of a ring. The operation was extremely difficult.

Dr. Hingston related the history of a case in which he had removed the spleen weighing 14 lbs.

Dr. Smith—A report on a case of ruptured extra-uterine pregnancy upon which he had operated unsuccessfully.

Dr. Wilkins described a case of malingering.

Dr. Johnston—A case of pronounced chlorosis in a man.

Selections.

Safe and Perilous Occupations.—Some one has facetiously observed that of all occupations that of the assassin is the most conducive to longevity. Certain it is that no sooner is a person known to have committed murder than all the safeguards that human ingenuity can devise are thrown around him, and everything possible is done to prolong his days on earth in comfort, ease and even luxury. If the vast sums of money, the valuable time, the brilliant talent, the profound learning, the restless energy, and the nauseating sympathy now wasted upon murderers were applied to improve the sanitary condition of our schools it would be more humane, and the result would be increased health, wisdom and morality. There were twenty-nine homicides recorded in this city last year, and the number not recorded probably reached up into the hundreds, for there are many here who live by taking human life, and advertise their bloody trade openly in the newspapers; yet we feel sure that it would be a profitable business venture for any insurance company to issue policies at reduced rates on the lives of this great army of assassins, from the bold and venturesome highwayman to the sneaking and cowardly abortionist.

Among the learned professions, that of pointing the way to heaven keeps its votaries longest on earth, while those who engage in holding others back or smoothing their path, if go they must, glide swiftly on themselves and soon lose their feeble grip on worldly things; thus, according to English statistics, the death rate among physicians, between 25 and 65 years of age, is more than twice that of clergymen of the same age, lawyers keeping about equally distant in the race for immortality between those who preach and those who practice. Of course, it is easy to see why medical men die young: irregular habits, loss of food and sleep, exposure to the extremes of weather, jolting and shaking over rough roads, inhaling microbe-laden dust or the foul air of a close carriage, the constant mental strain of weighing diagnostic symptoms and therapeutic indications with the fear of erring when human lives are at stake, and last, but not least, alas, with many of us, the worry expressly forbidden by the Master according to St. Matthew 6: 25-34—all these various agencies speed our journey.

Of manual toilers, those whose occupation keeps them outdoors are, with some few exceptions, the longest-lived, the exception being due to other causes, as overwork, especially muscular efforts and strains, liability to accident, and exposure to inhalation of dust and poisonous vapors. Thus, gardeners, farmers and fishermen are exceptionally long-lived, and sailors would be so but for the poor quality of food, insufficient and frequently bad water and the cramped-up, damp, dingy sleeping quarters furnished them. In these respects there has been a great improvement of late years, but much remains yet to be done. Jack's riotous living ashore and too often insufficient clothing at sea are also responsible for many of his ailments.

Carpenters and masons, whose work keeps them mostly in cities, where the air is less pure than in the country or at sea, are not as healthy as farmers or fishermen; and painters and plumbers, who are almost constantly exposed to noxious vapors and suffer more or less at all times from chronic poisoning, die comparatively young.

Tailors and shoemakers, who not only live in a foul atmosphere, but also sit all day in such a cramped position that respiration and digestion are interfered with, as well as drapers, wool and cotton workers, cutlers, file-makers and printers, are liable to phthisis.

Liquor-sellers and hotel waiters are extremely short-lived. their death-rate being respectively two and three-quarters and four times as great as that of clergymen.

Railroading and other occupations, requiring one to be more or less constantly on the road, are extra hazardous, not so much because of the accidents to which one is exposed, as because of the continued jarring, the superheated and foul air in the car and severe draughts every time a door or window is opened, and the fine dust which settles not only in the air passages, but almost completely clogs up the pores of the skin, throwing extra work on the kidneys and giving rise to the so-called "railroad kidney." For this reason, as well as for the broken sleep and irregular meals, commercial travellers are undesirable life-insurance risks.

To be a capitalist, whether busy or idle, is somewhat risky;

for, besides being a target for dynamite bomb-throwers, if busy, the physical wear and tear and the mental strain and anxiety of speculations will soon shatter both your mind and body, consigning you either to the madhouse or a premature grave, and, if idle, dissipation or *ennui* are apt to finish you early.

This being a general election year we should fail in our duty to the public if we did not remind our readers that they may also in their official capacity warn the people of the dangers to which the politician is exposed. On this subject we cannot do better than to quote an editorial in the *Medical Press and Circular*, June 22d, 1892 :

" The excitement associated with an approaching general election possesses a distinctly medical interest, as practitioners all over the country will shortly have another opportunity of ascertaining for themselves. Apart from the surgical injuries and solutions of cutaneous continuity caused by the impact of brickbats and missiles of a similar description, to be treated *sec. art.*, the excitement and the exhausting physical exertions which canvassing and electioneering entail upon the candidate and his chief agents determine a tangible proportion of breakdowns. It has often been noticed that the election is barely over before a certain number of the candidates collapse and are forced to retire from active political life. Indeed, one is surprised that life insurance companies do not insert into the conditions of the grant of a policy a saving clause relieving them from all responsibility during the electoral period. Given a mature age and a sturdy determination to succeed, the position of a parliamentary candidate certainly falls within the category of dangerous occupations. The wonder, indeed, is that a larger number do not give way under the strain, but the effects cannot be measured by immediate mortality. The moment seems opportune to advocate the value of bloodletting in heart failure. Such an operation, carried out on a public platform with promptitude and despatch on a syncopal chairman or lecturer would be enough to secure a popular reputation for the operator, especially if by good luck the victim survived the ordeal."

Several defeated Presidential candidates have lain down and died shortly after their defeat, and Generals Garfield and

Arthur might have been alive to-day had they left politics alone.

From what we have said it follows that if you would enjoy a happy life, as well as a long one, and be prepared to go to a better place when your time comes, practice not, but rather preach; spend not your days in houses built by man, but under God's fair sky; seek not wealth, for "it is easier for a camel to go through the eye of a needle than for a rich man to enter the kingdom of heaven;" keep the ten commandments and read and *heed* daily the Divine injunction: "Take no thought for your life, what ye shall eat or what ye shall drink; nor yet for your body, what ye shall put on."—*Pacific Medical Journal, August*, 1882.

Preparation of Catgut Ligatures.—In a paper by Dr. A. H. Tuttle, of Cambridge, read before the Gynæcological Society of Boston, June 9th, 1892, the author gives the variety, preparation, and uses of animal ligatures and sutures. He details the various methods of preparation, as follows:—

Klemm prepares his gut by repeated washings in 5-per-cent. alcoholic solutions of sublimate, until there is no turbidity. It is then stored in absolute alcohol.—*Archiv fur klin., Chirur.*, Bd. xii, Heft. 4.

Sir Joseph Lister made a solution containing one part chromic acid and 4,000 parts of distilled water, to which were added 200 parts of pure carbolic acid. In this solution catgut, equivalent in weight to the carbolic acid, is placed and allowed to remain forty-eight hours. It is then taken from the solution, dried and stored in 1-to-5 carbolic oil, when it is fit for use.—*Trans. Am. Assoc. of Obstet. and Gynæcol.*, September, 1890.

Macewen prepares his catgut by immersing it in a watery solution of chromic acid, 1 to 5, and adding one part of this to 20 parts of glycerin. At the end of two months it is removed and kept for use in 1-to-5 carbolic acid and glycerin.—*Annals of Anatomy and Surgery*, p. 128, 1881.

Reverdin takes crude catgut, which has not been preserved in fat, exposes it for four days to a constantly increasing temperature, until it reaches a maximum of 140° C. (284° F.), and then places it for a day in oil of juniper, when it is stored in alcohol.—*Lyon Medical*, June 1, 1890.

Larochette exposes the gut to heat until it reaches a maximum of 140° C. (284° F.), stores it in boiled olive-oil containing 10 per cent. by weight of carbolic crystals.—*Boston Med. and Surg. Journ.*, July., 1891, p. 13.

Bryant places crude catgut in a solution of bichloride (1 to 100) for ten minutes, then into a weaker solution (1 to 1,000) for twelve to fourteen hours; it is then wound on bobbins and kept in absolute alcohol.—*Manual of Operative Surgery*, p. 41.

Kocher places the gut in oil of juniper for twenty-four hours, and stores it for use in absolute alcohol.—*Ibid.*

Partridge cuts the gut into one-foot lengths, and places it in ether for five days; it is then removed and placed in Bergmann's solution (corrosive sublimate, 5 grains; water 31¼ ounces; alcohol, sufficient to make 1 pint), and kept for ten days; it is stored for use in a solution of equal parts of ether and alcohol, saturated with iodoform.—*The Medical Calendar*, p. 67.

Clinton Cushing uses the best violin catgut strings, which are placed in a large, open-mouthed bottle, filled with sulphuric ether, for forty-eight hours; when removed they are nearly white as the ether removes the animal oil. They are then placed in a mixture of three parts alcohol and one part juniper-oil, with the addition of three drachms of hydro-naphthol in each quart of the fluid. After remaining in this mixture for ten days they are ready for use.—*Trans. Amer. Assoc. of Obstetricians and Gynecologists*, vol. ii, 1889, p. 169.

G. W. Fowler winds catgut on ordinary spools which have been boiled in soda, and places them in a jar containing one pint of alcohol for every fifty metres of gut; the jar is then placed in a water bath or milk sterilizer, and the alcohol boiled for one hour; 95 to 97 per cent. alcohol is used.—*N. Y. Med. Record*, August 16, 1890.

Curtillet sterilizes the catgut by heating for one-half hour, in a partially closed glass vessel, at a temperature of 140° C. (284° F.), which is gradually raised to 150° C. (302° F.) It is then placed in absolute alcohol, and is ready for use. Thus treated, it will remain, for an indefinite time, sterile, strong and pliant.—*Medical News*, June 13, 1892, p. 669.

Mass. General Hospital: The catgut is soaked in ether for several days, and is then placed in an alcoholic solution of corrosive sublimate, 1 to 1,000 (95 per cent. alcohol). In some cases it is sometimes boiled in alcohol, in a closed jar, for half-an-hour, and then preserved in absolute alcohol.—*Boston Med. and Surg. Journ.*, October 8, 1891.

Boston City Hospital: The catgut is allowed to stand for twenty-four hours in aniline-oil, and is then heated, while still in this oil, to 115° C. (239 F.) for fifteen minutes. Then transfer to a 10-per-cent. solution in alcohol, until it is soft enough for use, and then to a 3 to 4 per cent: solution of glycerin in alcohol, so as to render it less slippery.—*Ibid.*

Children's Hospital: The catgut is first scrubbed with yellow soap, and allowed to stand in ether forty-eight hours; in corrosive sublimate (50 per cent.), forty-eight hours; and finally preserved in solution of sublimate, 15 grains; glycerin, 2½ ounces; absolute alcohol, 31 ounces.—*Boston Med. and Surg. Journ.*, Oct. 8, 1891.

Brunner scrubs the raw catgut with strong potash soap, then places it either directly into corrosive sublimate 1 to 1,000, or after leaving it one-half hour in ether. It is finally stored in solution of sublimate, 1 part; absolute alcohol, 900 parts; glycerin, 100 parts.—*Ibid.*

Roswell Park immerses the catgut in benzine or ether; it is then dried and soaked in 1 per cent. sublimate solution for one or two days, again dried, placed in juniper oil, and finally preserved in alcohol containing corrosive sublimate 1 to 1,000.—*Am. Journ. Med. Science*, November, 1891.

Billroth's Clinic: Catgut is first washed with potash soap; it is then laid in ethylic ether twice, for twelve hours each time; then dried and sterilized in a dry chamber, by raising the temperature to 121° C. (250° F.) It is then immersed in a solution of sublimate, 1 to 1,000 for twenty-four hours. It is stored in absolute alcohol.—*Medical Record*, April 25, 1891.

William Goodell places the prepared catgut in ether for twenty-four to forty-eight hours, according to the size of the gut; if of the larger size, the ether is changed once. The gut is then immersed for forty-eight hours in a 1-to-1,000 alcoholic sublimate solution. Wound on glass spools it is preserved in a mixture of two parts juniper oil, and one part alcohol, which is occasionally changed. When used it is transferred to a mixture of 1 part glycerin (sterilized by heat) to 9 of alcohol. This will last in the body from a week to ten days. —*Ther. Gazette*, January, 1892, p. 16.

From the tests of D. Braden Kyle (Satellite, July, 1892, p. 213), it seems that absolute alcohol increases the strength of the gut, and is its best preservative. Juniper oil is next, while sublimated alcohol is of the least value. Carbolized oil, as a preservative, has been abandoned in Europe.—*Journal of the American Medical Association*, July 9, 16; pp. 51, 52; 81-83. —*The Satellite.*

Non-Opiate Anodynes and Soporifics.—Under this heading Mattison (Notes on New Remedies, Oct., 1892) recommends Cannabis Indica in painful and spasmodic affections. He says: "This valuable drug, years ago popular, if now little the fashion, deserves a much larger share of professional favour." He gives the reasons for its disuse: first, fear of its toxic power; second, use of inferior or inert products; third, not giving the drug in sufficient doses to produce its effect. He further says: "Indian hemp is not a poison. There isn't a case of death on record." He strongly recommends its use in migraine, neuralgia, neuritis, uterine diseases and like painful affections. "The tincture—three grains to the drachm—may be given in doses of 10 to 40 minims; fluid extract, 5 to 20 minims; solid extract, ½ to 2 grains each hour or two. The wise way is a minimum dose at first, and repeated or increased till pain subsides, or systemic effect, without effect, proves it a failure."

Abortive Treatment of Acute Coryza.— —Capitan recommends the following, used as a snuff at the beginning of the attack, a pinch being inhaled in each nostril every hour for half a day only: Salol, 15 grains; salicylic acid, 3 grains; tannin, 1½ grains; powdered boracic acid, 60 grains. If this snuff is used too long it causes eczema about the nostrils, which is probably due to the carbolic acid, resulting from the decomposition of the salol. If it is desirable to use the remedy for a longer period, a little talc or powdered boracic acid must be added, or the proportion of salol reduced to 4—7½ grains.—*Lyon Medical*, October 30, 1892.

Obstetrical Practice "Cash on Delivery."—The fees for obstetrical practice ought to be strictly cash, as, in the nature of the case, there is ample time to make provision for it. We are sorry to say, however, that these fees are not always ready at the time the services are rendered, and, in fact, are too often never paid. We commend the following from an exchange, as a piece of effective logic :

"Night of delivery, all things *secundum artem.*

" 'Doctor, it is not quite convenient to pay you to-night, but, if you will kindly wait for a week, it will be all right then.' 'Oh, certainly, it will be quite as convenient then, for I never lose any money on my obstetrical cases. 'Indeed, how so ? Why not? ' O, because it is getting to be a well established superstition, based on facts, that parents who allow their baby boy to start out in life with a debt on his head the first thing, are sure to have a ne'er-do well, shiftless son, and if the baby is a girl she is sure to marry a dead-beat.' A peculiar expression came over the father's face, and the mother gave an anxious, wondering look at her baby. Half the bill was paid at the next visit, and the rest soon after."

Another physician, while attending an obstetrical case where the pay is not considered good, when asked, "Doctor, is the child marked in any way ?" answered, "It has only one little mark about it, but you can easily remove that." "What is that, doctor ?" 'It is marked 'C.O.D.' "—*The Physician as a Business Man.*

A New Remedy for Hysteria.—An interesting contribution to the therapeutics of hysteria has been recently made by Dr. Otto Wiederhold, the proprietor of a home for nervous patients at Wilhelmshohe, a health resort near Cassel. The patient on whom the method was tried was one Frau Zachmann, wife of the Imperial Consul-General at Dresden. She was 51 years of age, and was placed in the home by her physician, Dr. Berthold, with the diagnosis acute hysteria, and the statement that three doctors who examined her had found that otherwise she was in normal health. She complained constantly of pains in the lower part of her back, but no cause of such pains could be discovered, and Dr. Berthold recommended energetic and strict treatment. After her admission to the home Frau Zachmann began at once to cry out so much as to disturb the other patients. She would not listen to reason, and when shaken by the shoulder only became more violent, her screams being so loud that they could be heard in the street. Dr. Wiederhold remonstrated with her in the presence of her husband, shaking her by the shoulder and even threatening to beat her. This went on for some time, and the lady's case, instead of improving, became more desperate. When Dr. Wiederhold entered the room she screamed at him so loudly that he was unable to speak to her. He then tried to box her ears, but she deftly warded off the blows with her arms. The desired effect was produced for a brief interval, but the next day the screaming was renewed and the patient continued to complain incessantly of bodily pain. At last she was told by the doctor that if she did not keep quiet he would have to thrash her with a stick. Next morning he was awakened by renewed shrieking on the part of the patient. Unable to bear it any longer, he dressed himself, went up to her room and thrashed her with a thin cane, the one he usually employed to correct his four-year-old son. When her cries ceased he discontinued the application. In his history of the case he further states: "After beating her with a cane I begged her not to compel me to have recourse again to such extreme measures. A few days later, however, I was obliged to administer similarly energetic punishment. While my consultation was going on Frau Zachmann screamed out so frightfully that people stopped in the street to listen. I took a riding-whip and went up to her room. She was lying in bed. I appealed to her to keep quiet, and she paid no attention to my words. I seized her by the shoulder, turned her round and gave her several lashes with the riding-whip. The fact that the weals caused by the whip were still visible two months later was not due to the severity of the blows, but to the circumstance that the patient was unable to take proper nourishment. In a healthy subject the marks would have disappeared much sooner. From that point onward Frau Zachmann was a most docile patient, which proves that the remedy I employed was efficacious." This was the fourth case in which Dr. Wiederhold had employed this form of counter-irritation, and he considered it a perfectly justifiable procedure. Though he had studied at "Marburg, Berlin and Heidelberg, and had made a special study of the treatment of nervous complaints, and had practiced in various clinics at Bonn and Wiesbaden," he seems never to have heard of the American practice of giving such a patient ample occupation for the time being, with a full dose of ipecac, tartar emetic, or, better still, with a hypodermic of $\frac{1}{10}$ grain of apomorphia, otherwise he might have saved himself the three months' imprisonment which even a German court felt bound to impose.—*Maritime Med. News.*, August, 1892.

A Long Toilet-Pin Accidentally Swallowed, AND PASSED BY THE BOWEL AFTER FOUR DAYS.—Dr. Agustus A. Eshner reports the following case in the *Medical News* of October 22, 1892 :—

B. J., a colored girl, whose age is recorded as fourteen, but who appeared to be quite three years older, applied at the Jefferson Hospital on the evening of September 4th, stating that she had shortly before swallowed a toilet-pin, a duplicate of which she presented in evidence. As the foreign body seemed to be beyond immediate reach, the girl was advised to apply to the out-patient department on the following morning, and this she did shortly after noon. The girl stated that she felt slight pain in the epigastrium, but presented no other evidence of distress, beyond the fear of evil consequences of the accident that had befallen her. She was, however, reassured, and carefully enjoined to live upon a diet consisting exclusively of mashed potatoes and milk and to examine her stools in the hope of finding the foreign body. She returned in the course of two days, stating that the bowels had been moved, but that the offending body had not been found ; the abdominal pain had changed its seat and was now referred to the right hypochondrium. She was advised to persist in the treatment recommended. A day later she had the satisfaction of passing the foreign body, which, she stated when she brought it to me two days later, was surrounded by a layer of potato. The pin was nearly two inches long.

Cases of the kind to which that here reported belongs present certain features of interest. In the first place the body was a fairly large one, and besides, having a sharp point, it exposed the patient to all of the risks attendant upon the presence of such a body in the gastro-intestinal tract. In the second place, foreign bodies have not always been swallowed when patients come complaining of such accidents. Within a year I have seen a woman who stated that she had swallowed a rather large plate of artificial teeth. The history was that, feeling unusually fatigued, she had, contrary to her custom, retired without removing the plate. On arising the next morning the teeth were not in her mouth, and they could nowhere be found. The woman complained of considerable abdominal pain. There was no difficulty in swallowing, and a probang indroduced into the œsophagus encountered no obstruction. The woman was placed upon a mashed-potato diet, and reported several times, but finally failed to present herself. Inquiry, however, elicited the information that the missing plate had been found in some place in which it had previously been overlooked.

A third contingency that may arise is that a person has swallowed a foreign body and that his statement be not believed. Just such a coincidence occurred within my experience in the case of the man at the Philadelphia Hospital, believed to be insane, in which the complaint of having swallowed a plate of teeth, with the accompanying symptoms, was considered to be a delusion, to which little attention was paid until the condition became threatening, when exploration revealed the presence of a foreign body in the œsophagus. Œsophagotomy was performed, and the foreign body removed, but the patient unfortunately died of a septic pneumonia.

Hygienic Effects of Spraying Fruits for Insect Pests and Fungous Diseases.—A case of fatal poisoning from such a use of the arsenical compounds, Paris green and London purple, has never been substantiated. The true danger lies in having them in bulk about the farm.

Their use against the Colorado potato beetle was at first much opposed on account of supposed danger. Recently the sale of American apples in England has been injuriously affected on account of the practice of the spraying of trees. Dr. Wm.

McMurtrie, formerly chemist of the United States Department of Agriculture, has shown that even when they were used in such large quantities as to kill the plants themselves, yet the most rigorous chemical analysis could not detect any arsenic in the plants. These results were confirmed at the Michigan Agricultural College. Experiments made at the Colorado Agricultural Experiment Station showed that even when dusted upon cabbages in such quantities as would kill all worms within a day or two, an adult would need to eat some twenty-eight head of cabbage in order to consume a poisonous dose of arsenic, provided none of the arsenic was removed in the process of cooking.

As usually used for spraying apple-trees for the codling moth, of the strength of one pound in 200 gallons of water, one would need to consume several barrels of apples at a single meal in order to absorb a fatal dose. This would need to be done very soon after the spraying, and before it had been washed off by rain. When examined fifteen days after spraying hardly the minutest trace could be discovered.

Likewise of the four copper compounds used, the Bordeaux mixture, the ammoniacal solution of copper sulphate, the eau céleste, and its modified form, many vague and misleading statements as to their danger have appeared. Every one, however, who is familiar with the situation understands that they are simply efforts on the part of selfish competitors to cripple the legitimate trade of more wide-awake rivals. Not a single authentic case of poisoning, so far as the United States Department of Agriculture can learn, has been brought to light. It is true that a few individuals have claimed that they were made sick from eating sprayed fruit, but in all such cases careful investigations have revealed that claims of this kind were absolutely without foundation. Analyses which have been made of grapes intelligently sprayed in France, Germany, America, and other countries have shown that they rarely contain more than five parts of copper in a million, the average being 2.5 to 3 parts. On this basis one might eat from 300 to 500 pounds of sprayed grapes per day without fear of ill effects from the copper. Grapes which had never been sprayed at all were sometimes found to contain two parts of copper in a million parts, these but slightly less than the average sprayed fruit. The American wheat has been found to contain 4 to 10 parts per million of copper, with an average of 7.2 parts. There was, therefore, over ten tons of copper in the wheat exported from the United States in 1890. Beef liver contains from 56 to 58, sheep from 35 to 41 parts, while chocolate has been found to contain as much as 125 parts of copper in a million.—*Boston Med. and Surg. Journ.*, Sept. 8, 1892.

Abortive Treatment of Bubos.—Dr. Welander, of Stockholm, is the author of a method of abortive treatment of bubos, which has given him 91 per cent. of cures in cases where the treatment was instituted before suppuration occurred. He injects into the substance of the tumour a hypodermic syringe full of a one per cent. solution of benzoate of mercury, about 1 centigramme of the salt, and then applies a pressure bandage, which is re-applied twice a day. Usually one injection is enough to abort a bubo, but sometimes a second is required to complete the cure. Complete rest is a necessary adjunct of the treatment. The injection is followed by some inflammatory reaction and elevation of temperature. This gradually passes away, and in a week or ten days the glandular enlargement has disappeared. Dr. L. Létrick, of the City Hospital of Odessa, has tried this treatment on 140 cases with the following results: In 122 cases, or over 87 per cent., complete resolution was obtained. In 18 others he was obliged to incise the tumor, but in these cases suppuration had occurred before the treatment was instituted.—*Rev. de Ther. Med., Chir.*, Aug. 1, 1892.

An Extreme Case of Suspended Animation FROM CHLOROFORM RESUSCITATED BY DIRECT INSUFFLATION IN THE INVERTED POSITION. (BY A. E. PRINCE, M. D., PH. D.)—On July 22, 1882, chloroform was administered to Mr. John P——, aged twenty-eight, for the purpose of opening the mastoid cells for a supposed abscess. The gentlemen had a heart murmur, but it was believed that the administration would be unattended by especial danger, particularly as he had, within a few weeks, taken chloroform for another operation. No difficulty was at first experienced. Anæsthesia was rendered complete and the operation was begun, but in a short time circulation and respiration were suspended, and the patient became livid. The function of which organ failed first is not known, but, from the fact that there was no pulsation at the moment of the discovery of the arrest of breathing, and that the dark color followed so quickly, it is presumed that the case was one of heart failure, which is also rendered probable by the existence of a heart lesion, which was recognized. No time was lost in temporizing, but resort was had at once to the inverted position. The man was suspended by the flexed knees from my shoulders, and subjected to a trotting motion around the operating-room. A description of this procedure will be found in the "Transactions of the Illinois State Medical Society, 1890," and in the New York *Medical Journal*, August 22, 1891. This inverted position, with a jolting motion, was continued while my strength lasted, after which I stood still, and my assistant practised the Sylvester method, the body being still inverted and suspended from my shoulders. No response followed, and he was placed on the table; to all appearances he was dead. The skin was blue; a careful ausculation revealed no signs of pulsation. Hemorrhage had ceased, the last blood being of a very dark color. No time was lost, but the patient was again lifted to the shoulders of my assistant, by whom he was trotted around the room for about one minute. At this juncture the account of the infant resuscitation by blowing directly into the mouth, published by Dr. W. E. Forest, in the *Medical Record* of April 9, 1892, entered my mind, and I called a halt, knelt down, took a deep inspiration, joined my mouth with that of the patient, and emptied the contents of my lungs into his. The chest expanded, and the diaphragm, with the weight of the intestines, was raised, and I doubt not that the flaccid heart was emptied of its passive blood. Immediately the weight of the intestines and the elasticity of the chest forced a complete expiration. This was followed by another and another, until I could see that the lividity of the lips was less, though the ashen hue of the countenance persisted. A moment was taken to auscult the heart, but no sound was discerned. The artificial expansion of the lungs was resumed and continued for about three minutes, and we noted with gratification that the colour of the lips continued to improve. An interval was allowed for ascultation, but no effort at natural pulsation or respiration was detected. Again the inflation was resumed and continued at the rate of about twelve in the minute, for about two minutes, when the gratification was enjoyed of hearing the first natural effort at respiration. After a little time the patient was placed on a table, and the operation finished under ether anæsthesia.

This is the sixth case of suspended functions which did not respond to either the Marshall Hall method or the Sylvester method, the first five of which recovered under suspension treatment. Without this I am convinced all of these would have been lost. The foregoing is the only one that did not respond to the suspension method, and I am under unuttérable obligations to Dr. Forest for paving the way to the employment of the direct inflation in the inverted position of the body.

Dupuytren's Finger Contraction.—Steele Bailey (*The Amer. Pract. and News*, August 27, 1892), reports a case of this disease caused by syphilis, gout and rheumatism being excluded. The patient was a female aged sixty-seven years. Both hands were involved, the right to a greater degree than the left. The disease began in the left thumb and after a time attacked the little finger, and by degrees spread to the ring and other fingers. At last the deformity became such that she was unable to comb her hair, to arrange her dress, to write or to perform any manual duty. There was a distinct history of syphilis contracted from her husband seven years before the contraction began, treatment for which had not been properly carried out.

A Dog Without a Brain—Professor Goltz, of Strasbourg, has succeeded in keeping alive three dogs, after having removed the whole of the cerebral hemispheres. One lived fifty-one days, the second ninety-two days, and the third was killed after living eighteen months in this condition. In all three dogs the diencephalon had been more or less injured by the operation. In the case of the third dog, after he had been without his brain for over a year, he could be aroused from a deep sleep through the sensation of a touch. If an attempt was made to take him out of his cage he showed signs of anger, snarled and barked in a more or less normal manner. He walked around in his cage without falling, or, if he fell on a slippery surface, he got up again without assistance. These movements were particularly energetic when the animal was hungry. The hearing, although very dull, was preserved, and he could be waked out of a sleep by a loud noise. In the same way the sight, although nearly gone, was sufficient to preceive a bright light. He could not smell at all; but his taste was not destroyed, as was shown by his declining to eat meat strewed with quinine. He could eat and drink—that is his tongue, jaw and pharynx moved like those of the normal dog; but food had to be put in his mouth, as he never made any attempt to get it himself. There was entire absence in all those characteristics which are understood as intelligence, reflection or understanding, but he could not be considered as a mere reflex mechanism. He had as much perception as a new-born infant. He is uneasy when he is hungry, and appears satisfied after being fed. He becomes angry if he is waked from sleep or if he is pinched. The author believes that these experiments may modify many commonly accepted theories of the functions of the cerebral cortex.—*Boston Med. and Surg. Journ.*, September 8, 1892.

Black Eye.—There is nothing to compare with a tincture or a strong infusion of capsicum annuum, mixed with an equal bulk of mucilage or gum arabic, and with the addition of a few drops of glycerine. This should be painted all over the bruised surface with a camel's-hair pencil, and allowed to dry on, a second or third coating being applied as soon as the first is dry. If done as soon as the injury is inflicted, the treatment will invariably prevent the blackening of the abused tissue. The same remedy has no equal in rheumatic, sore or stiff neck.—*Medical Times.*

THE

Montreal Medical Journal.

VOL. XXI. JANUARY, 1893. No. 7.

SYMPHYSIOTOMY.

In this number of the JOURNAL we publish the history of the first case of symphysiotomy in Canada. Only three similar cases have been reported in the United States so far; the first on September 30th by Charles Jewett, the second by Anna E. Broomall on October 7th, and the third by Barton Cooke Hirst on October 10th. All four operations have been successful as regards the mother, but one child died from the compression to which the skull had been subjected during its long impaction in the pelvis. Had the operation been performed earlier this child would probably have lived. This excellent record of results shows what a future there is before this operation when performed in properly selected cases.

SMALL-POX.

Small-pox seems to be epidemic at present over a large part of the world. From Japan it was imported into British Columbia, where it is still raging. In Great Britain the disease has made great headway. In our neighbouring Republic, cases are reported in various localities. And what reason may we assign for this? The causes of epidemics are various and difficult to arrive at, but in this case the neglect of vaccination and revaccination has been the principal factor in causing the spread of this loathsome disease. For a time the pestilence has been in abeyance, until the health authorities in the various places were lulled into fancied security and neglect of the necessary precautions, when suddenly the reaper starts to gather his harvest of the unvaccinated and an epidemic results. In Warrington, Eng., one of the places where vaccination has not been enforced, there were four hundred cases at one time. Then the inhabitants awoke to the necessity of vaccination, and, as a result of the systematic performance of this operation, in one week the number of new cases fell from seventy-six to twenty-nine, and in the following week to little more than one a day. It cost Warrington at least five thousand pounds to learn this lesson, and probably the increase in the taxes will impress the fact upon the minds of the inhabitants.

This is only one instance out of many to show the necessity of preparation for war in time of peace. For some time an enquiry has been going on in Great Britain before a Royal Commission as to the efficacy of vaccination, and in many cases the authorities responsible for the enforcement of the law regarding vaccination have allowed it to lapse, on the pretext that during the sitting of the Commission the law ought to be suspended. The result is as might have been foreseen.

With small-pox all about us it behooves our own Board of Health to see that all are efficiently protected, as it is much easier to keep the enemy out than to fight him once he has gained an entrance.

KISSING THE BOOK.

In England the law has been altered relative to the practice of administering oaths in certain cases. It is no longer necessary to "kiss the Book," but the oath may be administered without this formality, each person raising his right hand while being sworn. This was done recently in Middlesex by the coroner, Dr. W. B. Gordon Hogg, and is a proceeding to be greatly commended. We have lively remembrances of our own coroner with his white locks and his Bible, the covers of which are not white and which have to be held in place by a rubber band. We were told to take the book in our right hand, and we did it reluctantly, a set of words is rapidly said, ending with the formula "kiss the book," and with a shudder we complied, thinking ourselves fortunate if we did not gather the germs of at least seven deadly diseases. The juries, sworn on the same book, were picked up in the street and from the waiting room of the hospital, some, indeed, suffering from contagious disease, but still to satisfy a sentiment the old formula of kiss the book is still adhered to. We echo the words of the *British Medical Journal*, "It is to be hoped that we shall soon hear the last of the unseemly practice of 'kissing the book,' which is certainly not free from danger of conveying infection, and, in any case, is an uncleanly practice."

A CORRECTION.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

MY DEAR SIRS,—Pardon a correction, which I think you will see is important, in the report of the few remarks which I made on Dr. Wright's excellent paper on Appendicitis at the Ottawa meeting of the Canadian Medical Association, as reported on page 430 of the December issue of your JOURNAL; for the very object of my remarks was entirely omitted.

The peculiar point in my own case, when a boy twelve years of age, was that the abscess opened and discharged *through the bladder*, and again healed without leaving any subsequent ill effects. A sudden and large amount of pus appeared in the urine, and continued in diminished quantity, until in about a week none could be found.

While cases may be on record with this termination, I do not happen to have come across any allusion to them in my reading, and for that reason I thought it desirable to mention it in the discussion, and now to call attention to the fact which had been quite omitted from my remarks.

I remain, faithfully yours,

L. DUNCAN BULKLEY, M.D.

P.S.—Allow me to express my warmest, deepest and sweetest regard for the memory of Dr. Ross, my true friend. L.D.B.

—We have received from Messrs William Wood & Co. a copy of a picture representing Professor Billroth and his clinic at the Vienna General Hospital. This is the most recent of a series of pictures which have been published to supply the demand for ornamenting offices and libraries. They are copies of India proof engravings and oil paintings, printed on extra heavy plate paper suitable for framing. The publishers have also issued a catalogue with miniature reproductions of the pictures of the series, seventeen in all. Those pictures, which we have seen, are exceedingly well got up, and while illustrating medical subjects, are at the same time of a decorative aud artistic character.

PRELIMINARY ANNOUNCEMENT of the special programme of the sixth annual meeting of the National Association of Railway Surgeons, embracing the United States of America, the Dominion of Canada and the Republic of Mexico, to be held at Omaha, Neb., the last Wednesday, Thursday and Friday of May 1893. General subject: "Injuries of the Cord and its Envelopes without Fracture of the Spine," as follows:

(1) History, by Dr. Geo. Ross, Chief Surgeon Richmond and Danville RR., Richmond, Va

(2) Anatomical Landmarks, by Dr. Jabez N. Jackson, Surgeon Wabash RR., Kansas City, Mo.

(3) Physiology of the Spinal Cord, by Dr. A. P. Grinnell, Chief Surgeon Central Vermont RR, Burlington, Vt.

(4) Experimental Research, by Dr. B. A. Watson, Surgeon Pennsylvania RR., Jersey City, N.J.

(5) An Experimental Study of Spinal Myelitis and Meningitis, by Dr. Geo. A. Baxter, Division Surgeon Chattanooga Southern RR., Chattanooga, Tenn.

(6) Clinical Aspects of Spinal Localization, by Dr. Nicholas Senn, Surgeon Chicago, St. Paul & Kansas City RR., Chicago.

(7) Diagnosis from the Standpoint of the Neurologist, by Dr. C. H. Hughes, Consulting Surgeon Missouri Pacific RR., St. Louis, Mo.

(8) Pathology and Pathological Anatomy, by Dr. Samuel C. Benedict, Surgeon Richmond & Danville RR., Athens, Ga.

(9) Prognosis, by Dr. Samuel S. Thorn, Chief Surg. Toledo, St. Louis & Kansas City RR., Toledo, Ohio.

(10) Treatment, by Dr. W. B. Outten, Chief Surgeon Missouri Pacific RR., St. Louis, Mo.

(11) Medico-Legal Aspects, by Judge J. H. Collins, Chief Counsel Balto. & Ohio RR., west of the Ohio river, Columbus, O.

(12) Statistics of the Amount of Money Paid by the Railroads of the United States, during the last ten years, for Alleged Injuries of the Spine, by Dr. F. K. Ainsworth, Surgeon Southern Pacific RR., Los Angeles, California.

(13) Clinical Report—1st, from a Medical Aspect, (*a*) Permanent Injuries, (*b*) Alleged Injuries; 2nd, from a Legal Aspect, (*a*) Settled with Suit, (*b*) Settled Without Suit, (*c*) Miscellaneous, by Dr. Geo. Chaffee, Surgeon Long Island RR., Brooklyn, N.Y.

C. W. P. Brock, M.D., President, Richmond, Va.
E. R. Lewis, M.D., Secretary, Kansas City, Mo.

Personal.

—A. B. Osborne, M.D. (McGill, '86) has been elected oculist and aurist to the Hamilton General Hospital.

—Dr. W. Stewart Philp (McGill M.D.C.M. '89, M.C.P.S. Ont.), who is spending the winter in Florida, has been recently accepted a member of the "Fla. Medical Association," after passing a most creditable examination.

Obituary.

—Deputy Surgeon-General Farron, the medical superintendent of the Edinburgh Royal Infirmary, died Oct. 15th, aged 71 years.

—Alex. Keiller, M.D., F.R.C.P., Consulting Physician for Diseases of Women at the Edinburgh Royal Infirmary, died Sept. 26th, aged 81 years.

—Julius von Beregszaszi, M.D., died recently at Bad Zandpoort, in Holland, where he had gone with his wife to enjoy a well-earned holiday. He appeared to be in his usual health when, on the morning of August 10th, he suddenly fell and immediately died. The cause of death was found to be aortic aneurism. He was in his 46th year, and was a great favourite with students of all nationalities. His teaching as a laryngologist was excellent and his classes much sought after. His command of English was remarkable, and conduced greatly to the pleasure and profit of working under him. His loss will be deeply regretted by medical men throughout our continent.

Medical Items.

TAKES HIS OWN MEDICINE.—"The physician," says a ribald contemporary, "is the man who prescribes change, and then takes all you have."

AN ALARM BOTTLE FOR POISONS.—A Canadian named Trottier has invented a simple and ingenious device to be attached to all bottles containing poisons. It consists of a mechanism fastened to the bottom of the bottle, and so arranged that every time the bottle is lifted or moved it rings the bell. With a death's head for the eye, and a kind of death rattle for the ear, accidents ought to be avoided.

WOMEN MEDICAL STUDENTS.—The Faculty of the Columbian University in Washington have withdrawn the privileges which they have previously offered to women in the medical department. The reason assigned is that the presence of women as students kept men away, and they had no desire to become a female seminary, and that the teaching of men and women together is demoralizing to both.—*Boston Med. and Surg. Jour.*, Oct. 20, 1892.

WHAT IS IT THAT PULLS A PERSON DOWN.—It is not natural and reasonable intellectual work that injures the brain, but emotional excitement. Most men can stand the severest thought and study of which their brains are capable and be none the worse for it, for neither thought nor study interferes with the recuperative influence of sleep. It is ambition, anxiety and disappointment, the hopes and fears, the loves and hates of our lives that wear out our nervous system and endanger the balance of the brain. A man can spend more of his strength in five minutes of unnatural mental excitement than in one day of calm, steady brain work.—*Herald of Health*, April, 1892.

—Charcot says: "Every drop of seminal fluid of a drunkard contains the germs of all the neuropathies."

—The largest child ever born, it is said, was the son of Bates, the "Kentucky Giant," and his wife, the "Nova Scotia Giantess." This infant Hercules weighed 23¾ lbs.

A NEW PROFESSORSHIP IN JEFFERSON MEDICAL COLLEGE.—At a meeting of the Board of Trustees, held on Wednesday, Nov. 30th, 1892, Dr. G. E. de Schweinitz was, on the unanimous recommendation of the Faculty, elected Clinical Professor of Ophthalmology in the Jefferson Medical College. At the time of his election, Dr. de Schweinitz was Professor of Ophthalmology in the Philadelphia Polyclinic and Lecturer on Medical Ophthalmoscopy in the University of Pennsylvania.

—They do not have any uncertainty in Geneva regarding ownership of the prescription. The law says the druggist must keep it. The enactment covering this point is explained by the fact that a number of years ago a nurse obtained a prescription for atropia, and went from chemist to chemist, thus procuring a large quantity of this drug, with which she poisoned a number of her patients. The authorities did not propose to any longer provide encouragement to criminals through laxity or lack of regulations applying to the sale of poisons, and very promptly and prudently passed the law referred to.—*Pharmaceutical Era.*

—There are said to be over six thousand railroad surgeons practicing under contract. In so far as we have been able to learn, the surgeon does his work mainly for the honour of the position, an annual pass over the company's lines for which he works, and a mere pittance in money. However, as they are contented to work for nothing and board themselves, others need not bother themselves about the matter. It, however, affords an apt illustration of how large corporations fatten by withholding from the medical profession that compensation which has been fairly earned.—*American Lancet.*

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Original Communications.

MODERN PATHOLOGY.*

BY J. G. ADAMI, M.A., M.D.,
Fellow of Jesus College, Cambridge.
Professor of Pathology in the McGill University, Montreal.

Medicine at the present moment is passing through its great age of renascence. Never before in its whole history have such advances been made as are being recorded month after month in these last years of the nineteenth century, and with these great advances and their bearing it is that I wish to deal this afternoon. For they have been gained, not by chance speculation, but by purely scientific methods,—they are the results of experimental pathology—and, thanks to them, we are beginning to see our way out of that empiricism which has been the bane of our profession all these centuries, an empiricism which has made us the laughing stock of the wits and the butt of the cynics of every age.

Just in proportion as we gain an accurate series of observations so do we add to the science of medicine, so do we, in fact, establish a true Pathology. For pathology is the scientific study of disease. There still exist those who look upon the dead-house as the be-all and end-all of the pathologist, who regard the careful study of diseased tissues, of their gross and minute lesions, as forming his main function. Certainly this is a most important function, and one that, in English-speaking lands, needs yet further development. Here, in Montreal, much more advantage might be reaped by the earnest student out of the post-mortem room. I fear that we should fall under the condemnation of that intelligent Yankee whose sweeping condemnation of the English medical schools was to the effect, " No, sir, you do not understand scientific medicine in England; you are nowhere near to it. Look at Berlin and compare: there every physician and surgeon considers that he has failed in his duty if he is not able to confirm his diagnosis by means of a post-mortem." We do not go so far as that here; we do not desire to attain to that Utcpia; nevertheless we might accomplish more than is accomplished at present.

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* Inaugural Address delivered in the William Molson Hall, January 3rd, 1893.

But the number of pure and simple morbid anatomists is rapidly fading into nothingness. Now at length it is generally acknowledged that inasmuch as pathology is, as its name implies, the study of disease, so is it to be entered into in the widest sense, and that the domain of the pathologist is the investigation not only of the *results* of disease, but also and equally of the *causes* and of the *course*. This is pathology at large; and now with recognition of this elementary truth that in order to advance surely a subject must be studed in all its aspects—origin, equally with progress, and equally with end—medicine has entered upon a new phase. Thus, at last, to combine one of the innumerable rich metaphors with which those of this side have enriched our common language with one of more assured antiquity, pathology is no longer a " one-horse shay," with that poor one horse behind.

If medicine is to be treated as a science it must, like all other natural sciences, be based upon experimental investigation. All the great advance of the present day is due to submitting the problems of our profession to the touchstone of experiment in place of the vague and abundant hypothesising of the past.

I know no better illustration of the truth of this contention than is afforded by the history of the events which led up to Pasteur's great discovery of the method of preventive inoculation against Anthrax, a disease the study of which has formed the starting point of all our later investigations into infectious disorders.

Anthrax is an epizoötic that has for long been recognized in all quarters of the globe, a disease affecting the domestic animals and occasionally man himself, a disease causing a terrible mortality in the herds of sheep and cattle of districts where it has broken out. But until the sixties, like all other infectious diseases, absolutely nothing, or, not to be extreme, absolutely next to nothing, was known as to its nature, nothing could be done to eradicate it. Most held with Topsy that it "growed," the fatalists consoled themselves by declaring the disease a visitation of Providence and sat down, grimly patient, to await events.

It is true that some went as far as the theorising stage. Thus in France, in the district that may be termed the classic land of anthrax, the fertile district known as the Beauce, lying around Chartres, the farmers spoke of it as a disease of the blood. These Beauceron farmers are a curious observant race. It has been their custom to open and examine the carcases of the sheep that die. They held that the full-blooded, best nourished animals were those most easily attacked. Doubtless the natural habit of looking upon that which is lost as best had much to do with this notion of theirs. Still so it was, they held that anthrax was a "maladie du sang," and this view, translated into scientific language by Delafond, held sway for some years in France; that is to say, plethora was indicated as the main predisposing cause of the disease. The rich succulent pasturage of the Beauce region as compared with the neighbouring sterile but anthrax-free Sologne spoke in favour of this view. Indeed it became the custom when an anthrax outbreak occurred to transfer the sheep from the Beauce to the Sologne. A further argument in favour of the same was the fact that from time to time certain farms and in these certain meadow lands were specially attacked. The mortality was appalling: as many as fifty to one hundred sheep might be found dead in the morning. Now these affected meadows were apparently the most fertile, the grass was a lush dark green; but for years they were unsafe. The farmers called them sadly the "champs maudits"—the accursed fields.

The first step forward was made by a French Governmental commission in 1852. This determined the infectious nature of the disease, showed that one and the same malady affected horse, sheep and cow, that inoculation with the blood of an animal dead of the disease induces the disease in another, and, what for our present purpose is of especial importance, showed that small animals, rabbits and guinea-pigs—animals which can be employed for purposes of research—can be inoculated and will manifest the symptoms associated with anthrax.

Next in order of time may be placed Davaine's advances upon his early observations, observations confirmed by Pollender and others, that the blood of animals suffering from anthrax contains innumerable minute and characteristic rodlets. Davaine and Rayer had first found these in 1850 and had described them very accurately. But not until Pasteur's papers in '60 and '62 upon the micro-organisms causing lactic and butyric acid fermentations could any explanation be given of their significance. If microbes be the cause of fermentation, it might be that they could also cause disease; there might be truth in the old vague fermentative theory which time after time had been brought forward to explain epidemic and other maladies, and thus Davaine was led to renew his studies upon anthrax. He found the rodlets constantly present in the blood of animals suffering from anthrax, that whenever they were present the blood was virulent, that fœtal blood from animals that had died of anthrax did not contain them and was not virulent. To Koch, however, we owe the complete proof that the bacilli are the active agents in the production of anthrax. He was the first to gain pure growths of them outside the body, and to show that the most minute quantities of such growths could cause the disease, and, again, by discovering that the bacilli formed spores, he cleared up a large array of difficulties in connection with the propagation of anthrax. These spores are little bodies—germs—formed within the bacilli; they can stand heat and cold and drying up, and can retain their vitality under conditions which are rapidly fatal to the bacilli containing them.

All this was a very great advance. We were taught that an infectious disease might be due to the entrance into the system and propagation in the same of a minute vegetable organism. This was one great truth learned by experimental research. But still this was only a stage from which more might be learnt.

To some sufferers from toothache it brings a certain amount of consolation to be informed by the dentist that the pain is due to, say, an abscess at the root of the tooth; but even to these, as to all others, the important question is: How is that abscess formation to be brought to an end? What treatment can the dentist employ which will surely stop the pain? Now, this subject of research into the nature and prevention of disease is so young that there are still at this moment many infectious diseases and those the commonest—for instance scarlatina, measles, small-pox,—of which as yet we do not know the cause of the ache, if I may so express it, and very many others, notably tuberculosis, of which we know the cause, but have not yet arrived at the stage of operative prevention. With anthrax, however, thanks to Pasteur, we have arrived at the preventive stage.

It is in the highest degree instructive to follow the steps whereby Pasteur gradually arrived at his great discovery of preventive inoculation. Koch was unable to give anthrax to guinea-pigs and rabbits by feeding them with large quantities of spores. Pasteur, with the aid of the Beauceron farmers, solved the difficulty. He made huge growths of the anthrax bacilli, and, with these, watered certain fenced-off patches of meadow-land; a small flock of sheep was turned on to the watered patches, another small flock on to the adjacent unwatered meadow. Among the former there was a fair mortality; the latter were unaffected. It was clear, therefore, that at times the disease can be produced by the ingestion of the bacilli or their spores. When, now, Pasteur fed the animals on spore-containing bacilli, together with the thorns and substances liable to cause irritation and laceration of the mucous membrane of the intestine, the mortality became enormous. Intestinal lesions are, therefore, an important predisposing cause.

Next, Pasteur turned his attention to the earth of the "champs maudits." He washed some of this in water, allowed the poured-off supernatant water to deposit the finer particles held in suspension, decanted off the water and heated the fine deposit in order to kill off all the ordinary microbes of the soil, leaving only the resistant spores alive ; inoculated a series of animals with the material so gained, and of these a certain number died of veritable anthrax. Thus he was enabled to show that the earth of the affected meadows contained anthrax spores. The proof was absolute. The theory of plethora fell to pieces before the results of experiment.

It is unnecessary here to describe in full how Pasteur demonstrated that the meadows had become "accursed" by the previous burial in them of animals that had died of the disease, or how years before Darwin brought out his admirable monograph upon the earthworm, Pasteur proved that it was this great fertilizer that, peculiarly frequent in the rich pastures, brings up to the surface the spores from round the carcases of the buried animals. Time forbids. I must pass on to the more direct researches of this keenest of observers into the production of immunity.

When Pasteur and Chamberland inoculated a number of cows with pure growths of anthrax they found that some died and some simply suffered from a transient malaise and survived, and, what is of special importance, that the survivors were immune to further attacks of the induced disease. And now the question arose : could the virus be so attenuated that all the cattle could be given a mild form of anthrax, and so be rendered refractory.

But here a great difficulty presented itself : the bacilli, as I have said, form resistant germs, or spores, and so long as such spores are developed, so long is there a succession of bacilli possessing a virulence equal to that of the spores from which they sprang. So long, therefore, as there are spores, so long is it impossible to gain attenuation. To gain attenuation the first step must be to prevent the development of these resistant germs. This was accomplished by keeping growths of the bacilli at a temperature so high—42-43°C.—that their development is hindered and almost stopped. The longer the cultures are kept at this temperature the weaker do they become until in forty days or so they die off, and, no spores being formed, a small number of the bacilli taken any day after the eighth and grown in fresh culture fluids at blood heat, preserve for long the grade of attenuation implanted upon them. Thus a series of races of the bacilli can be gained of different degrees of virulence. In these Pasteur obtained what he wanted.

Upon May 5th, 1881, before the Agricultural Society of Melun, Pasteur inoculated 24 sheep with growths of weak, attenuated anthrax bacilli. Upon May 17th he inoculated the same 24 with his stronger second vaccine. On the 31st he inoculated all these and 24 unvaccinated sheep with the most virulent cultures of anthrax that he possessed. Within 72 hours all the unvaccinated sheep were dead from anthrax. Of those vaccinated but one died, and this one at the autopsy was found to have suffered from a serious ailment of another nature.

This was Pasteur's first attempt at preventive inoculation against anthrax upon any considerable scale, and, whereas, in the affected regions of France the mortality from anthrax had been, among sheep, nine per cent., and, among oxen, seven per cent., now it is below one per cent. In the first year alone of general employment of the method, among the eighty thousand or so sheep inoculated, the mortality would, under the old conditions, have been over seven thousand; it was reduced to a little over five huudred. Six thousand five hundred animals were thus saved to France in that year alone. As a consequence of the process the price of land in the affected districts has increased in value, for now the "champs maudits" can be freely used; the most important insurance companies decline to insure animals upon farms where the vaccination is not practised, and indeed themselves undertake the preventive inoculation of animals.

I have here given, at what may be held to be too great a length for this occasion, the account of the advances that have been made in our knowledge of one infective disease. I have done so purposely, for I wish you to realize how these advances have been accomplished not by mere superficial observation, or by lucky haphazardings, but by a sequence of ably conceived researches, the one leading onwards rationally to the other until, step by step, not only the primary cause, but also the means of prevention of a terrible disease has been satisfactorily attained.

This is but one of the triumphs of modern medicine, and now I doubt whether I can better employ the next few minutes than by bringing before you, in rapid review, the more prominent and telling achievements of recent pathology. I doubt whether I can better bring home to you the vital importance of my subject than by such a review, or can better "seize the day" than by so impressing you with the magnitude of the progress that has of late been made that I may stir up in you the earnest desire to see Montreal and Canada participating worthily in this great new birth of medicine.

Thanks to experiment, we have gained a knowledge during the last twenty years, and more especially during the last twelve years, of the bacteria associated with a host of the diseases affecting man and the lower animals ; of the microbes causing suppuration and erysipelas, pneumonia, typhoid, dipththeria, influenza, tuberculosis, leprosy, glanders, relapsing fever, tetanus and malignant œdema, of microbes not bacteria associated with malaria, actino-mycosis, ringworm and favus. These and others are the infectious agents in man alone. If we take into account the lower animals also, I see that a recent able and laborious worker, Dr. Sternberg, gives a table of no less than one hundred and fifty-eight definitely recognized pathogenic micro-organisms, and the number, like that of the minor planets, is being increased month by month. It may alarm sundry here present to learn that there exist so many infectious diseases under the sun. I must ask you to take it for granted that there are so many, and, it may be, as many more, for I will not seek to entertain you by reading out Dr. Sternberg's list, together with the names of the investigators who have studied each of these 158 maladies.

With not a few diseases has the stage been reached of satisfactory preventive inoculation in the laboratory, the smaller mammals being employed. Pneumonia and typhoid may be cited as good examples. Tuberculosis and diphtheria are

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doubtful examples. With these our success so far must, for practical purposes, be considered incomplete. Still, in these cases, the prospect fills us with hope.

With a few diseases already great success has been attained. First in place, as it was first in time, I may mention fowl cholera—a malady common in France, where at times it decimated the poultry yards. Pasteur was able to isolate the bacillus causing this, to grow it, to attenuate it, with the attenuated virus to give a mild form of the disease to the fowls, and thus to protect them from contracting the fatal form. Thereby the disease has been overcome, if not eradicated, in various parts of France.

Another malady, very fatal in certain districts, affecting especially cattle, and known as "black-leg," "quarter evil" or "symptomatic anthrax" has been most successfully combatted by preventive inoculation, the method suggested by Arloing, Cornevin and Thomas, and elaborated further by Kitt, being extensively employed in Switzerland and lower Austria. Here the experience gained from years of study of the disease has shown that a different method of attenuating the microbe is best employed. The flesh of an affected animal is taken, is dried and powdered and subjected to heat. By this means the spores of the contained microbes are attenuated, and a two-fold inoculation of the powdered muscle under the skin induces a mild disease and is protective. There is but one disadvantage in the method. Every endeavour has so far not succeeded in rendering it absolutely safe. After a series of, it may be, ten thousand successful vaccinations, suddenly, out of a batch of ten animals inoculated, eight may die as an immediate consequence of the treatment. The loss may thus fall terribly upon a single owner. This, however, has not prevented the Bernese farmers from employing the method, for they freely recognize its immense economic value to themselves. To obviate the difficulty and minimise the possible individual loss they have constituted themselves into a syndicate, and any loss is distributed all over the members of the same.

So, too, the disease known here as "swine erysipelas," in France as "rouget," in which the mortality is very high, often twenty-five per cent., at times sixty per cent. and over, has been hindered in its spread by the researches of Pasteur, Roux, Chamberland and Thuillier. These observers found that if they injected a pure culture of the minute bacillus causing this disease into a pigeon, and passed the disease from pigeon to pigeon, the disease became more and more severe. The microbe gained in virulence. If, on the other hand, they made a similar series of passages through the rabbit, the microbe, while becoming more fatal to the rabbit, became less and less harmful to the pig. So that vaccines have been prepared with which vaccination against the malady is extensively practiced in France, Germany and Switzerland.

Here, then, we have a small series of diseases in which protective inoculation or vaccination has already been of enormous economic benefit. Thousands of sheep, of cattle, of swine, and of fowls are yearly being saved by these protective means. What, now, had been done for man himself ? Well, man is an animal that it is difficult to treat satisfactorily. Having a will of his own and ideas of his own, the latter very often very wild, it is difficult to compel every individual in a district or country to comform to what the majority is assured for common good. We know this only too well in connection with the one form of vaccination that is already practised. That being so we can reduce the ravages of, but cannot hope to stamp out, a given disease. When further there is added the fact that a certain proportion of individuals are peculiarly susceptible to any given disease, and thus, that a certain number of individuals are liable to succumb in direct consequence of inoculation with an attenuated virus, a further difficulty is added. And, above all, there is the terrible responsibility attached to the initial investigation. We are playing with edged tools with a vengeance, and where the inoculation of a given virus will lead to one of two alternatives, and one of these two alternatives is the death of a fellow human being, then even the boldest may well shrink from initiating a procedure of this nature, however much he feels confident that the procedure is for the welfare of his race.

But, despite all this, the pathologist has succeeded in certain cases. In one that can scarcely be considered as coming under the head of modern pathology (I refer to the true Jennerian vaccination), the inoculation, as you know, has already been carried on for nearly a century, though it is only now that the medical world is becoming convinced that what we produce in vaccination is a very mild attenuated small-pox, the virus being greatly modified by passage through the cow.

In the other cases we have had to depend for success either upon the fact that there is a very long period of incubation, during which preventive measures may be taken, or upon a modification of the procedure. A very long series of investigations by a great number of observers has shown us that the pathogenic bacteria in their growth produce certain toxic substances, and that to the poisons produced by them are due the symptoms of the disease. To give one example : By filtering the bacilli from the fluid in which they have been grown, Roux and Yersin have succeeded in isolating from cultures of the bacillus, associated with diphtheria, a substance which, inoculated into dogs, will in due time produce the same transient paralyses of the muscles of the eye, the soft palate, and the body generally, which in the human being so frequently manifest themselves in consequence of this disease. But, what is more, it has been found that in some cases by injecting the culture fluids, or substances gained from such fluids into animals, immunity can be produced, so that, if now large quantities of the microbes of the disease be injected the animals so treated remain refractory and show no symptom. It was two American observers (Salmon and Smith) who first in 1886 demonstrated this fact in connection with hog cholera. Since then the same has been proved for quite a host of diseases.

Again, a series of observations—started originally in connection with what might be thought to be the quite academic and unpractical subject of the exact nature of immunity—has led us to discover that certain tissues of the body, and certain cells of the blood itself, develop substances (defensive proteids or antitoxines) which antagonize the poisons produced by the pathogenic microbes, substances which can be shown to be

From 1886 to 1890 inclusive 1757 patients presented themselves for treatment at the Institut Pasteur at Paris, in which cases it was absolutely certain that the animal that had caused the bite was rabid, inasmuch as either portions of the brain of such animal inoculated into another had produced rabies, or some person or animal bitten at the same time had succumbed to the disease. Of these 1757 patients but 18 have died, giving a mortality of only 1.02 per cent.

Of all bites, the most dangerous are those upon the face and head. In France, from 1862 to 1872 (that is, long before Pasteur began to study the subject), fifty cases of this nature were collected and recorded by the Comité d'Hygiene. Of these fifty, forty-four resulted in death. And in general it would seem that the mortality from such bites is more than 80 per cent. The records of the Institut Pasteur at Paris show that from 1886 to 1889 inclusive, among the cases in which the rabid condition of the attacking animal was satisfactorily determined, 593 patients presented themselves for treatment after bites upon the head. Of these, instead of more than 450 succumbing to the disease, only 14 died. Instead of a mortality of 80 per cent. there was one of only 2.36 per cent.

It is unnecessary, I think, to say more upon this subject (for those figures are themselves sufficiently eloquent) save to notice the latest development in this relationship. Only very lately Tizzoni and Schwartz, following successfully upon the studies of the former in connection with tetanus, have shown that rabies can be prevented, and indeed stopped in mid-career, by injections of the blood serum of an animal that has been rendered refractory to the disease. We are waiting to learn how far such treatment will be successful with human patients.

I have now given you the leading cases in which research has led to the discovery of methods directly preventing the onset of infectious or contagious diseases; and had experimental investigation but led to these results and to none other, I think that you would all agree that modern pathology had accomplished sufficient to earn the gratitude of mankind.

This, however, is but a small portion of the good work accomplished. A large portion is to be found in the enormous advances that have been made in the indirect prevention of infection. The knowledge we now possess that infection is due to the presence of microbes has revolutionized hygiene.

Let me take but one example—and that a disease which in temperate climes swells the death roll to a larger extent than does any other. I mean Tuberculosis in its various manifestations—as phthisis or consumption, tubercular peritonitis, tubercular bone disease, lupus, and so on. Until 1883 the medical world was still doubtful as to the infectious nature of the disease, and so long as it was doubtful, so long was it impossible to do anything to limit its spread; from the moment Koch's great discovery of the bacillus associated with the disease was confirmed and gained acceptance, from that moment the controversy was set at rest.

We know now that the phthisical patient is a possible centre for the infection of others, that the sputum contains the living germs, that these germs are capable of resisting exposure for long periods, and may, if inhaled, set up the phthisical process in the lungs of others.

We know, in fact, that it is criminal not to take strict hygienic precautions in connection with phthisical patients, that the discharge from the lungs must be vigorously destroyed by appropriate means, that handkerchiefs and linen must be thoroughly disinfected, and the patient's room be kept well-ventilated and sunny, for sun and air are the great germicides.

Again, bacteriological observation has amply demonstrated that cows not infrequently suffer from a tubercular disease of the udder, and has proved fully the relationship between such tuberculosis in the cow and the tubercular inflammation of the bowels which attacks young children brought up on cow's milk. The practical deductions to be drawn from this fact are that, where possible, it is the duty of parents to determine that the cows from which is drawn the milk supply of young children are in a sound state, and where this is not possible, it is imperative that the milk should be rendered sterile by cautious scalding.

What is yet of more urgent necessity is that the State should stamp out tuberculosis in cattle—for now-a-days it is within the power of duly qualified inspectors to recognise tuberculosis in animals. When Koch elaborated tuberculin, and when, under political pressure, he made a mistake of such magnitude as it is only given to a great man to make—as old Chaucer says,

> "For whan a man hath ouergreet a wit
> Full oft him happeth to misusen it,"—

he was very far from working in vain. Leaving out of account the impetus that his researches have given to bacteriological science, his tuberculin has proved itself to be of diagnostic value, so that, injected into man or the lower animals, it indicates the presence or absence of tubercular lesions according as to whether it induces or does not induce high fever. Thus it is a comparatively simple matter to determine the presence of tuberculosis wherever there is doubt. It is for the welfare of the community that suspected animals be isolated from their fellows and prevented from being foci of contamination ; and where reinoculation with tuberculin again leads to fever, there the cattle should be sacrificed.

It is, however, one thing to preach to those in authority upon this earth, another to get them to follow the advice of the preacher. In this matter the hygienist must, I fear, stand in the market place and pipe, without setting agog the feet of the rulers of the people. Tuberculosis is so widely diffused among cattle, and affects so particularly the most highly bred and delicate, that the commercial value of the cattle which ought to be destroyed is at present held to be a complete bar to any general action. I will say nothing as to the relative value of man and brute——and the farmer's vote. Perhaps some day this will be more evident than it is now. Nor would I thought to be taking to task the Government of this country, for Canada in this particular respect is neither before nor after other civilized communities. I only say this much in the hope that Canada, whose prosperity depends so greatly upon her four-footed possessions, and whose system of cattle inspection is so admirable, will in this matter of tuberculosis lead the van.

Only within the year that has just ended has a similar means of diagnosis been determined in connection with another disease —a disease so fatal when it attacks man that it has already caused the death of more than half a dozen bacteriologists engaged in studying it—and the last death that I have seen recorded is that of the first to successfully work out the means of early diagnosis, a young Russian veterinary surgeon, Dr. Kalning. I refer to glanders, which at the present time is causing great ravages in various parts of Europe, but which, I believe, is not widely spread among the horses in this country, although it does exist here. Following upon Kalning, observers in Germany and France have confirmed the fact that the existence of this disease in the horse can be determined by the injection into suspected horses of sterilized glycerinated extracts obtained from pure cultures of the bacillus of glanders. Glanders in many respects resembles tuberculosis, and this fluid "mallein," like tuberculin, causes high fever in the affected animals whereby a diagnosis can be made.

Lastly, in this connection, it is impossible for me to pass over the most beneficial of all the advances that have been made through pathological research—an advance that will ever be associated with the name of our great countryman, Sir Joseph Lister. It was Lister who first proved that suppuration and foul conditions of wounds was due to the presence in these wounds of micro-organisms, and who showed that suppuration might be minimised and completely prevented by the employment of methods which prevent the access of germs to the wounded surface. This treatment has wrought a revolution in surgery. Operations are now performed securely and deliberately, which, years ago, would have been held to lead to almost certain death. And whereas erysipelas and hospital gangrene were the bane of the surgical wards, and puerperal fever ran like wildfire through the lying-in wards or attacked every woman whose accouchement was attended by some one unfortunate practitioner, and caused a terrible death-roll, now erysipelas never spreads in any well regulated hospital, hospital gangrene is unknown, and puerperal fever condemns utterly the midwife and doctor in whose practice it occurs, while it is practically banished from the hospital. To what perfection antiseptic treatment may be brought is shown by the fact that during one winter suppuration occurred but three times, as a complication of operations, at the Johns Hopkins Hospital in Baltimore. In olden times it would have been well had three operation wounds healed *without* suppuration in any hospital of the same size. Lister, by setting the example of antiseptic and aseptic treatment, has saved more lives than have been destroyed in all the wars of this century.

I have dwelt so long upon the good work done by experimental pathology in hindering the ravages of the infectious diseases, because it is in relation to these that pathology has of late gained its greatest successes, and because their incidence affects all, so that in discussing them I am the more likely to appeal to all here present. I need not say, however, that there are other forms of disease not directly due to bacterial invasion (indeed many are wholly unconnected with such), and here, also, modern pathology is throwing a flood of light upon their causation and their rational treatment. Let me instance the large class of diseases of the brain and spinal cord. In these, thanks to the researches of Hitzig, Fritsch, Ferrier, and numerous others upon the dog and monkey, we have learnt that there are areas of the surface or cortex of the brain which are intimately connected with the movements of different sets of muscles of the body and limbs, with speech, hearing, sight, and so on. We have learnt also that the nerves connected with these "centres" have definite paths through the brain and spinal cord, and thus, now-a-days, it is very often possible to determine from the symptoms displayed—the tremors, the paralyses, the disturbances of speech, or sight, or hearing—the portion of the brain or spinal cord which is diseased. It is, moreover, possible in many cases to cut down upon the region of disturbance, and, by removing the tumour or abscess pressing upon the brain substance, to save the patient from imminent death. It has been objected that this same knowledge could have been learnt by post-mortem observations without experiment upon animals, but granting, what I cannot honestly admit, that it could, the question is, when should we have arrived at our present knowledge? Not for years and years. It was not until experimental research was made upon the functions of the brain and spinal cord that any sure knowledge was gained of those functions. And certain it is that our great English operators upon the brain and spinal cord, men like Macewen and Horsley, owe the knowledge they possess of the localisation of nerve centres to the researches of Hitzig and Ferrier.

But, ladies and gentlemen, I might continue far into the night recounting the triumphs and prospective triumphs of the modern pathology. I should like, for instance, to tell you how experiments of a purely academic nature into the functions of the sympathetic system have thrown a flood of light upon the symptomatology of that curious disturbance known as Graves' disease; I should like to tell you how, step by step, investigators like Horsley have worked out the relationship between disorders of the thyroid gland and that remarkable malady described first by Ord and known as myxœdema, until only recently Dr. Murray of Newcastle has discovered that cure may be brought about by injections of the juice of this gland taken from the sheep. But were I to continue, I should, I fear, thoroughly exhaust your patience. No matter how eloquent facts may be—and I have striven throughout to let the facts speak for themselves—there comes a period of mental repletion. I have already given you a sufficiency of facts in this brief review for you to judge of the greatness of my subject, of its high aims, of its noble achievements.

It may be that there are some here present who, through the silence of our profession when attacked by agitators, through ignorance of the facts, and through pleasant cultured habits of life and absence of contact with the huge mass of human suffering, have, until now, in the words of a friend of mine, permitted the philozoic sentiment within them to overpower the philanthropic, and who, thus far, have regarded vivisection and animal research as utterly degrading, if not, in the words of a gentle English divine, as "positively hellish." I ask such, if any there be, to seriously reconsider their position. All the progress that I have described to you has been based upon animal research. Many of the advances made have been for the immediate benefit of the lower animals. Surely no one would venture to contend soberly that Pasteur was brutal and deserving of denunciation when, for the ultimate saving of innumerable thousands of sheep, he sacrificed a few score. I would say in all reverence, "How much, then, is a man of more value than a sheep!" Surely we act rightly if in the hope of saving men's lives, of adding to the health and well-being of our fellows, we, taking all care that they suffer a minimum of pain, employ the lower animals. Attack, I say, other painful practices in connection with the lower animals that are performed for our advantage and enjoyment. Wage a crusade against pigeon-shooting, against fishing and fox-hunting; cease maiming cattle, horses and fowls for pecuniary benefit, for comfort, or for purposes of food, and then, and only then, break out against those whose aims are higher and nobler. Thank God, our profession stands above every other in its reputation for humane feeling, and our profession unanimously supports those of its members who devote their lives to research. Perhaps it will be retorted that I am wrong in employing the term "unanimously," for that great physiologist and man of science of the antivivisectors, Mr. Lawson Tait, is dead against us. With all due acknowledgment of Lawson Tait's genius and marvellous power as an operative surgeon, I contend that he is no more a man of science, in the true acceptation of the term, than a skilled carpenter is, in ordinary parlance, a professor of applied mechanics. The very fact that the antivivisectionists fall back upon him as their medical mainstay proves my contention.

It may be also that among my colleagues there are those who would fain have me urge the claims of pure science apart from practical results. I own the rectitude of this plea. Science is not to be pursued for immediate results. The Professor of Chemistry—Pasteur—little thought that in beginning his studies upon the crystallisation of tartaric acid he was starting upon the path that would revolutionize medicine and make him the greatest benefactor that France and the world at large has ever possessed. The insignificant parish doctor in Posen—Koch—

had no idea that his attempts to gain cultures of anthrax bacilli from the cattle that died in his district would result in his becoming the great auxiliary in this revolution. And so it is always—science, to be successfully pursued, must be pursued for itself. To-day, however, I think I do rightly in showing the great results of such a pursuit, and in proving in a way appropriate to the end of the nineteenth century the truth of the old Arabian proverb—" The ink of science is more precious than the blood of the martyrs."

This, however, ladies and gentlemen, is not my ultimate moral. I have throughout this lecture endeavoured to keep that in the background, though to do so has been difficult,—and just as the Irishman in dock, when asked by the judge whether he had anything to say before sentence was pronounced upon him, replied, " Sure, my lord, and I leave it to your conscience," so I, too, would much prefer to leave this moral to the conscience of my audience. We who have the cure of bodies are infinitely more diffident than our brethren of the cure of souls; the miserable condition of the building in which our Faculty is housed—the Faculty that has made McGill what you now know it to be—is, I think, a strong argument in proof of our diffidence.

You will have learnt from the cases that I have put before you that human pathology and human medicine are based upon comparative pathology, that it has been through study of disease in the lower animals that man has thus greatly benefited. And this study of the disease of animals along with that of man ought especially to be pursued in a country like this, a country that depends so largely upon its cattle for its prosperity. Surely Canada ought not to be behind in the beneficent race that is now being run between the civilized nations to discover the prevention and cure of disease. Surely the time has come that due opportunity should be given to the student to study worthily a subject so rich in promise, and fraught with such actual and prospective benefit to our race. And here in this the leading medical school of the country, with its associated veterinary faculty, it is that the start should be made.

ADDRESS IN OBSTETRICS.*

By T. J. Harrison, M.D., Selkirk.

Mr. President and Gentlemen:—I feel rather out of place in undertaking to address you on this subject. Dr. Cameron was to have given the address on Obstetrics, and I was to follow him, leading the discussion. I had no idea of the line Dr. Cameron would take, and could prepare nothing, but was going to follow his lead. As it is, I will take for my theme Operative Midwifery as it was taught to me, and as I practise it.

It is now nearly forty years since I commenced the practice of midwifery, and more than forty since I commenced its study; and I well remember how elaborately we were taught operative midwifery. The different varieties of forceps were shown, the advantages and disadvantages of each explained, the method of applying them in the different positions, and presentations demonstrated; and the elaborate preparation of the patient. She was to be brought across the bed, her hips at its edge, her feet on two chairs, an assistant in charge of each limb, and a third to steady the body. Then, as to when we were to apply the forceps, the directions were nearly as short and terse as those of Mr. Punch to those about to commit matrimony—simply "Don't." We were told that it was a very dangerous operation. We were shown by statistics that it was a very fatal one; and we were told not to apply the forceps until we were positively certain that nature could not complete the delivery. We were, moreover, told that we should never take our forceps with us—that there would be too much temptation to use them. The importunities of the patient, the anxieties of the friends, and the doctor's wish to show that he was really doing something, would induce him to use his forceps before he ought to.

When I went home to practise, the country was new, the roads were bad, and I had to travel on horseback; and those of you that have ever tried the experiment—and those that have not may be familiar with Obadiah's experience in carrying Dr. Slop's on his high-trotting horse—will know that carrying the long forceps on horseback is not conducive to the equestrian's comfort, and I was easily induced to leave mine at home.

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* Delivered at the meeting of the Canadian Medical Association, at Ottawa, September 21, 1892.

I had not been long in practice until I had a case which I thought required the forceps, but I was seven or eight miles from home, the night was dark and stormy, the roads bad, and I put off sending until it was perfectly plain that something must be done. I got the forceps, applied them, and in a minute or two my patient was over it. I was imbued with the idea that I had performed a serious operation, and remember saying to my patient, "I need not tell you to keep still, you'll do it without telling. She was a strong, German woman, and when I visited her next morning she was sitting up combing her hair. I could not help thinking that if I had had my forceps with me I could have saved the woman and her friends a great deal of anxiety, and herself five or six hours of intense agony.

Since then I have taken my forceps with me, and have not waited until the woman was in articulo mortis before using them. I have, in my forty years' practice, used the forceps a great many times. I have in that practice, unfortunately, been at the death of more than one patient, but I do not remember to have lost one after a forceps delivery. I have had, I suppose like a good many of my friends, rupture of the perineum a few times, but have had as large a proportion of such cases where no forceps were used as where I used them. I remember two cases where I had rupture while using the forceps. One of these was a case of eclampsia. I think my father was operating. The patient went into a convulsion and suddenly threw herself just when traction was being made, and the result was a rupture. Early this spring I had another case; it was not my own—it was a consultation case. The woman—a very small woman—had been in labour for a great many hours before I was called. I applied the forceps, the head came suddenly and unexpectedly on the perineum, and I had to put a stitch in it. I think these are the only cases I have had in connection with the use of the forceps, and I have come to the conclusion that the teaching of those days, and the aphorism "meddlesome midwifery is bad," are accountable for a great deal of suffering and a great many deaths. I do not mean to say the aphorism is untrue. Meddlesome midwifery is undoubtedly bad, but the indolent, irresolute, undecided man takes advantage of it and shields himself under it. He sends for you hours after the forceps should have been used, and he calmly tells you that he believes in leaving things to nature, and that " meddlesome midwifery is bad."

No sensible midwife would think of operating where nature, unaided, was equal to the task. But the question to be decided is, How are you to tell when it is certain that if you do not operate your patient will die undelivered ? You can only tell by waiting until the last moment, and then it is often too late. There is no doubt but that the man who uses the forceps as I have done, has used them in some cases where the powers of nature, if left for some hours longer, would have been competent to deliver, but, on the other hand, by waiting I should have lost patients that I saved. As in most earthly things there is a doubt, but you will remember, Mr. President, that Hoyle, in his advice to whist players, says, " When in doubt, lead trumps." I do not think better advice could be given to the judicious, careful, skilful midwife. *When in doubt, operate.* With regard to the harum scarum, rattle-brained man, all I can say is that he has no business in the lying-in chamber, and that if he finds himself there, no advice that you or I, Mr. President, could give would help *him.*

Again, when I went to school we were told that when the disproportion between the fœtal head and the maternal parts was so great that there was no possibility of natural delivery, we were to use Smellie's scissors to reduce the size af the head, and to deliver in that manner. Now, since abdominal surgery is so much in fashion, and the abdominal section so common, that, if Darwin's theory is true, we may in the future expect to develop a race with the abdomen already opened, I see in the reports of the Obstetrical and Gynæcological Societies that in a number of them the question has been seriously discussed as to whether craniotomy should ever be allowed. I remember that at a meeting of one of these societies in the States the question was brought up, and the proposition was advanced whether it should not be declared criminal, and that the man who reduced the fœtal head should be put in the same category as the criminal abortionist. It was stated that the fœtus had as great a claim to life as the mother, and when it was shown that under the best of circumstances, with the most skilful men, there was more danger to the mother delivered by the Cæsarian section than by craniotomy, it was held by some that the fœtus was worth as much to the world as the mother, and that it was her duty to submit to the operation, even with the greater chance of losing her life, in order to save that of her child. I remember reading with amusement the remarks of one of the medical men there, who stated that he considered the life of the fœtus of more value to the community than that of the mother; that the mother had reached the end of her tether—she had done her possible, and, I suppose, he concluded she was only an ordinary hum-drum wife and mother, whereas the possibilities of the fœtus were unlimited, it might amount to almost anything, and that when the midwife by delay allows the fœtus to perish, or plunges the scissors into the living brain, he may feel he has stilled forever

> "Hands that the rod of empire might have swayed,
> Or waked to ecstasy the living lyre."

We all know that too many children born in natural labour die before completing the first year of life, and a still greater proportion of them perish before they arrive at the age of usefulness, and then, I think you will bear me out in saying, that after safely passing through all this, the chances of the child being an idiot, insane, or a criminal, are greater than of its being anything extraordinary. You will remember that when that amusing crank, Mr. Walter Shandy, wished to prove the correctness of his hypothesis, that the pressure of the cerebellum on the cerebrum during natural labour was injurious to the intellect; to prove the superior intelligence of those not subjected to it, could only bring up the case of Julius Cæsar and the doubtful and equivocal one of Edward the Sixth, and I doubt whether, with all the births by the Cæsarian section which have taken place since, you can materially increase Mr. Shandy's catalogue.

Now, we should bear in mind that the mother has gone through all this, has passed the quicksands and shallows of childhood, youth and adolescence : she has arrived at the time when she is the corner-stone of a family, when her life is of the utmost importance to her friends and family, and when her death would perhaps be a loss irreparable, and I say that she has infinitely greater claims on life than her fœtus. I say that under the best circumstances. I am not speaking against the Cæsarian section. Her chances of recovery would be less after the Cæsarian section than if she had been delivered by craniotomy. Perhaps, if the operation were performed by the best men of the colleges, the mortality would be small ; but imagine how such an operation would be performed by the ordinary country practitioner. I can sympathize with a country practitioner when he is brought face to face with questions of this kind—" Shall he open the abdomen or reduce the size of the fœtal head ? Perhaps he has never seen the living abdomen opened, or ever seen the section of the cadaver since he left college, and it is by the country practitioner that most of this work would have to be done. In a case of this kind, say, for instance, there are men in the States, in Kingston, or even in Ottawa, here, who can operate successfully : they might as well be in the moon as far as we are concerned. The boy who started practice without going to college said he should probably kill his first half dozen patients, but he would gain experience by it. But a man practising amongst our country families would not see that many cases during a long practice. In all my practice the question has but twice been raised whether I should resort to the Cæsarian section or craniotomy on the viable fœtus. Soon after I commenced practising I had a case. The woman had been in labour for a long time, the forceps had been applied and it was not possible to deliver. The fœtus was evidently dead. I used the scissors and delivered per vias naturales. About four years ago I had a patient, a small woman, with a pelvis of the masculine type, and the child was enormously large. She had been in labour for several hours. The head would not engage. I tried to apply the forceps above the brim, and am not ashamed to confess I made a complete failure. I turned and brought down the feet. I thought perhaps by pressure above, and the application of the forceps to the after-coming head, that I could deliver, but the disproportion was so great that I entirely failed to get the head engaged. The fœtus was dead, the cord pulseless, and I passed the scissors into the base of the brain,—and those of you who have tried that on the base of a strongly ossified skull will not envy me my labour. However, I delivered the woman. I had attended at the birth of both the father and the mother ; their mothers were remarkable for having large children, and her chance of bearing a proportionate child was small. I said to the mother-in-law, " Now, if this woman gets in this way again, I would advise, if she is anything like as large as she was, not letting her go her full term. That was some four years ago. Some time in June last I happened to be attending another daughter-in-law of hers, and she told me this woman was over seven months gone, was very poorly, and very large. I said I would advise her to have premature labour brought on. They had moved at this time several miles away. There was a young doctor living near her. They told him my opinion, and he at once passed a catheter into the uterus. He told them labour would come on in twenty-four hours or so. They waited forty-eight hours and then thought something was wrong. I went and found the os pretty well dilated, and I could feel the feet. I told her labour would take place before long, and that I thought the young doctor would get along all right. I had not been home long until I was sent for again. I found the os fully dilated and the head presenting. I ruptured the membranes and down came the cord. My friend was recently from college, and he thought that by putting the patient in the knee-chest position he could reduce it. He kept her in that position as long as she would endure it, and thought he had succeeded, but when I came to examine her I found the cord there still ; I brought down the feet and delivered. The child was living, and is still, and doing well.

I think that when a country practitioner, who has had no experience in opening the abdomen, is brought face to face with the question, " Which shall I save, the mother or the child ?"

and saves the mother, he has nothing to reproach himself with, and that he should be sustained by the profession. It is not in the interest of our profession or our patients to encourage operations in which we are likely to make disastrous blunders.

You will remember that O'Meara tells us that during the accouchement of the Empress Maria Louisa the presentation was abnormal, and Dubois asked the Emperor if it should be necessary to sacrifice the life of one of them, which he should save, the mother or the child. Badly as he wanted an heir, he replied, and I think it was one of the most sensible things that ever the great Napoleon said—" The mother, it is her right."

DISCUSSION.

DR. WRIGHT (Ottawa)—I listened with a great deal of pleasure and satisfaction to Dr. Harrison's very eloquent remarks on the progress made in obstetrics during the last forty years, and I am sure we all enjoyed his address and learned a great deal from it. There were one or two points that probably attracted the attention of all. The one was as to the use of the old aphorism about the meddlesome midwife, and I can recollect the impression made on my mind as a student. As he said very properly, everything depends on the definition of the word meddlesome. I must say I think, as a rule, instruments are used more frequently than they should be. I do not mean to say that they are so used by Dr. Harrison, but we are all more inclined to be too hasty in the use of the forceps than we are to be tardy. I was interested in his remarks on rupture of the perineum. That danger is present to everyone of us when we are about to use the forceps. I quite agree with him that as many ruptures of that kind occur without the use of the forceps as with them, provided the instrument is used properly. I should have been pleased if he had touched on a point in which we are all interested—that is, how far there is a necessity for using vaginal and uterine douches, and how far that necessity occurs in the general practice of medicine. The reports of cases by which we are more or less guided usually come from hospital practitioners, and the statistics come nearly altogether from hospitals. I should like to hear from general practitioners and specialists as to what their experience has been in private practice. For some time I was inclined to believe that it was a desirable thing and a wise precaution to wash out the vagina. I am now inclined to believe that more harm is done by indiscriminate use of the vaginal douche. I am inclined to believe that the natural process of labour is aseptic, and if the bed-clothing and the hands of attendants and everything else are kept aseptic, a woman is in very little danger of trouble. It is a matter in which I should like to hear the opinions of members present. My own practice is, when no complication occurs, to leave the woman alone and instruct the nurse to be careful about asepsis of all the surroundings. I should like also to hear the opinions of some medical men present about the after treatment of an ordinary midwifery case. I have quite myself, and I daresay most others have, given up the old method of dieting, which I think was altogether fallacious, and the old method of insisting upon absolute rest. One of the most practical points in dealing with lying-in women is insisting on change of position as soon as possible. I look upon bed-pans and all those things as being absolutely injurious and among the most frequent sources of trouble. I think getting a woman into a rectangular position for the ordinary physiological functions is of great use in getting rid of clots and other matter more or less deleterious.

Dr. Dickson—The remarks of Dr. Wright lead me to feel it my duty to express my opinion with reference to the use of the douche. I think that if the practitioner is careful in the manipulation of the case up to the time when most men are in the habit of employing the douche, the douche will not be necessary —that is, if he is careful to keep his hands perfectly free of all septic matter, and careful to see that the vagina is relieved from all clot and other matter, there is no necessity to use the douche. With reference to dieting and the constrained position that it was formerly thought necessary to require the woman to maintain, I think the ideas he has expressed are entirely in harmony with advanced management of obstetrical cases. In my opinion, in most cases it is wholly unnecessary to compel a patient to continue the position on her back for any time whatever. I think the patient is much better fitted for a satisfactory recovery if she is allowed to take any position that she finds most comfortable. The use of the bed-pan I find also is a great mistake. It is awkward to evacuate the bowels or bladder in that position, and if the patient is prevented from assuming an upright position she is also prevented from getting rid of the accumulation of blood in the form of clot, and which often, by its presence, leads to great trouble. If she is allowed to assume an upright position she is able to get rid of those foreign elements and the prospects of her recovery are very much greater.

The CHAIRMAN—I have been very much pleased indeed with the address of Dr. Harrison, and more especially as it was unexpected and impromptu. I agree with a very great deal that he has said, and I particularly agree with the remarks that fell from Dr. H. P. Wright as to the use of the uterine injections and also change of position. I have been in the habit, for a great many years, of allowing a woman to change her position just as soon as she felt so inclined, and particularly when nature called on her to urinate I have had her raised to an upright position. But there is one precaution you have to take in this, it must be gently done. I think it is a very bad thing, indeed, for a woman to rise suddenly after she is delivered. Now as to the use of forceps, I think we have gone, perhaps, to the other extreme. Some years ago, as Dr. Harrison very properly pointed out, it was considered a very critical and dangerous operation. Now, particularly with the younger men, I think they are using the forceps a little too often. However, it is better to err on that side. With regard to rupture of the perineum, I believe, and have believed for a great many years, that you can do a great deal to prevent rupture by using the forceps. You have perfect control of the head. When the labour pains are severe you can hold the head back, and I think it is the greatest safeguard to the perineum to use forceps carefully. My late lamented friend Dr. Tye, whom you all know, and who was one of the best practitioners in the country, held with me that he had saved a great many perineums in that way.

I have done the same I think. If the forceps are used properly —if the perineum is allowed to dilate and warm applications are used, I think you prevent rupture in a great many cases.

ENTERECTOMY FOR THE CURE OF FÆCAL FISTULA.*

By H. H. Chown, B.A., M.D., Winnipeg.

The case which I bring before this Association is of interest both from its mode of origin and from the means used to cure it.

Madame V. entered the Winnipeg General Hospital on May 4th, 1892, with a large wound in the left groin, from which fæcal matter was escaping. The skin around the opening was intensely inflamed, hard, brawny and excoriated. The inflamed area included the upper third of the front of the thigh, the left vulva, and the lower third of the left side of the abdominal wall. This surface was very tender and painful.

The history of the case, as obtained from the patient, was that for many years a lump occasionally appeared and disappeared in the left groin. It was not painful and caused her no trouble. Although she never showed it to a physician, I have no doubt that it was a small inguinal hernia. During the spring of this year the patient fell in the yard and struck her groin against some hard substance. The blow was strong enough to cause discolouration of the parts, and the lump then became permanent and also painful. The injury converted the reducible hernia hitherto existing into an inflamed, irreducible hernia. No vomiting, constipation, or other symptoms of obstruction of the bowels supervened. Because of the presence of the tumour and of the pain which it produced, she decided to deal with it surgically on her own account. A poor widow, twelve miles from a doctor, she could not afford to secure professional assistance ; so, with a razor, she made an incision over two inches long into the tumour, and succeeded admirably in performing a left inguinal enterotomy.

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* Read at the meeting of the Canadian Medical Association, at Ottawa, September 21st, 1892.

The patient was born in Belgium, came to Manitoba in 1889, and is 46 years old ; she is the mother of four healthy children, no miscarriages. Before this trouble arose she had always been perfectly healthy, and never consulted a doctor for any form of sickness. Her husband died two months after she came to Canada, and since then she has had to work very hard to support her family. She is a strong, well-nourished woman. Her appetite and digestion are good. The bowels have always been regular before she made the artificial opening into them.

During the two months that she was in the hospital before the operation was performed, the fæces poured out of the opening in the groin. No form of dressing that we could devise would keep her even relatively clean. The inflammation of the skin was not only very painful, but also kept the temperature above the normal. The fact that she did not emaciate showed that the opening in the bowel was not high up, but must involve either the ileum or colon. A small amount of fæcal matter would pass into the bowel below the opening, so that every few days she had a small natural motion per anum. The opening was exactly in the fold of the groin, but no portion of the bowel could be seen externally, and no spur could be felt by the finger in the wound. Nothing appeared to check, in the least, the amount of discharge from the bowels, while the condition of the patient was pitiable indeed—a burden to herself and a source of disgust to those around her.

As the state of the patient was not improving in the slightest, as there was no tendency in the wound to grow smaller, and as the quantity of fæces passing through the lower bowel was constantly decreasing, I suggested the need of operative interference. After explaining to her the risks involved, she urged that one be undertaken, as she preferred death to her loathsome condition. Greig Smith, in his work on " Abdominal Surgery," gives three plans of dealing with these cases—

1. Closure by plastic operation.
2. Division or removal of the spur.
3. Resection of the bowel.

The first was not possible in my case because of the position and size of the opening, and because the inflamed tissues would not yield good results in a plastic operation. The second was not possible, because there was no spur to be felt or seen. The third plan was therefore decided upon. Greig Smith says, " In cases of large loss of substance of one side of the bowel, without flexure and without the existence of a spur, resection may from the first afford the only prospect of cure." No words of mine could more accurately describe the condition of affairs in my patient, and the specimen shown will prove that nothing less than excision could have been successful.

Notwithstanding attention to feeding, to frequent washings of the bowel both above and below the opening, and to the free use of antiseptics on the surrounding cutaneous surface, it was impossible to get the skin into a satisfactory condition. It was made as clean as possible beforehand, but was a source of great anxiety throughout the after history of the case.

I operated on July 4th, 1892, before several members of the hospital staff, and was ably assisted by Drs. Porter, McInnis and Metcalf, members of the house-staff. My incision was made in the left linea semilunaris, and was about two inches long. After opening the peritoneum, I carefully separated the adherent bowel from its attachments, using the fingers only for this purpose. I then brought the involved intestine outside the abdominal wall, and the balance of the work was done extraperitoneally. On examining the bowel I found the opening was fully two inches long, and that just below the opening a ring of constriction had already formed to such an extent that I could not pass the tip of my little finger through the contracted portion. In the specimen shown, the glass tube would not pass through the lower portion until its end had been drawn out to a cone-shaped terminus. On account of the occurrence of this annular contraction, and the certainty that complete stricture would soon follow, excision of the intestine was the only course open to me.

As I had no proper forceps for occluding the bowel above and below the field of operation, I used tapes passed through the mesentery and tied firmly around the intestine. I then, with scissors, made two transverse incisions across the bowel, between three and four inches apart, and removed the intervening portion with a triangle of the mesentery. For use in suturing, I had prepared fine cambric needles threaded with the finest Chinese twist silk. The silk should be cut in lengths of about two feet, and tied with a single knot at the eye of the needle, with one end cut to within two inches. Invert each cut end of the bowel and close it with a double row of continuous silk suture. Then draw the ends past one another to the extent of six inches, if possible, and apply two parallel rows of continuous suture to unite the bowels near the mesenteric line. Make the suture line one inch longer than the length of intended opening, and leave the needles threaded at the end of each row. Open the bowel on each side with scissors, placing the incision about one-quarter of an inch from the double row of sutures already inserted, and making it three or four inches long. To check hemorrhage from the incised wounds, a quick, continuous, overhand suture is run along the cut edges, including all the coats on both sides, and continued around each free edge. The needles on the double line of suture previously placed along the mesenteric border are now picked up, and the sutures continued around the upper or free side of the incisions until they reach their point of origin. The lateral openings in the bowel, besides the sutures placed along the edges to check hemorrhage, are completely surrounded by a double row of continuous sutures, a pretty sure guarantee against fæcal extravasation. In order to prevent invagination of either blind, pouch-like end, it is wise to pass a stitch near each end to unite it with the adjacent bowel surface. For cleansing the parts nothing but pure boiled water is required. After thorough douching, the bowel is dropped back into the abdomen, the omentum drawn down over it, and the external incision closed by two lines of silk sutures. No drainage and no flushing of the peritoneal sac is necessary. The artificial opening through the abdominal wall was thoroughly curetted, swabbed out with chloride of zinc solution, packed with iodoform gauze, and then left to fill in with granulations. The operation performed and, indeed, almost the words used in describing it are copied from a pamphlet published by Dr. Robert Abbe, of New York, on "Intestinal Anastomosis and Suturing."

The operation, from the time of commencing chloroform to her return to bed, occupied nearly two hours. When the patient reached her ward about 4 p.m. she was in capital condition. The first twelve hours she had no food or drink, the next twelve hours she had cracked ice only, and then began to get half-ounce doses of milk or beef-tea every hour. There was slight vomiting and hiccoughing the first night, but after that the patient expressed herself as being free from pain and very comfortable. The bowels were kept locked up by opium for forty-eight hours, and then she received a seidlitz powder every three hours until the bowels moved at 2 a.m. on the third day, or about sixty hours after the operation. The first motion was soft and natural, with very little blood, mucus or pus. I continued the seidlitz powders, and the bowels moved again about 1 p.m., the same day. As long as she remained in the hospital she was given saline purgatives to keep the bowels open, aud when she left she was furnished with a large bottle of black draught, with instructions to use it if required.

On account of the inflamed condition of the skin, and also because of the opening through the abdominal wall where the fistula had been, I was compelled to dress the wound every other day and use bismuth freely over the surface to keep it dry. I had two stitch abscesses, but fortunately they did not infect the deeper tissues. Indeed, in cases like this, where one has to operate through tissues which cannot be rendered aseptic, the condition of the wound must be a constant source of great anxiety. The temperature reached 101°F. the first, third and fifth days after the operation, then came down and remained practically normal during her stay in the hospital. She left on July 22nd, eighteen days after the enterectomy, and was able to walk over one and a half miles to reach the railway station. I received a letter from her early this month (September) stating that she was quite well, and had had no difficulty since her return home.

Two important questions are now *sub judice* in reference to operations similar to the one I have here described. The first moot point is in reference to the use of rings or plates. A number of American surgeons have suggested that the technique could be improved by the use of decalcified bone plates, rubber plates, catgut rings, etc. I had the pleasure last year of seeing Dr. Dawbarn of New York demonstrate, on the subject, his plan of using raw potato for plates. The consensus of opinion, however, seems to be returning to the original plan of simple suture. In some cases the rings have twisted, and thus become the causes of obstruction after the operation. Senn draws attention to the possibility that plates may be tied so tightly as to cause gangrene. R. F. Weir, in a paper on the subject, draws attention to the tendency of the opposed intestinal incisions to slip out beyond the rings or plates so that they have to be tucked back, often more than once. Dr. Abbe says " that the attempt to simplify the technique of lateral anastomosis by bone plates or other devices has not improved it." Dr. Bell, in a graphic description of gastro-enterostomy, published in the MONTREAL MEDICAL JOURNAL, May, 1892, reports a case where the remains of the plates were found at the site of operation twenty days after, " the plate in the stomach still firm and scarcely altered in three-fourths of its periphery," and therefore a source of danger. The ease and safety with which suture without plates can be accomplished lead me to favour that plan.

The second question not yet decided is as to the preference between lateral anastomosis and end to end suture. The danger in each is cicatricial contraction of the opening, but, as in lateral anastomosis, the size of the opening is unlimited and perfect apposition is more easily obtained, it is, in my opinion, to be preferred.

AN ANOMALOUS RASH IN SCARLATINA*

By R. E. McKechnie, M.D., Wellington, B.C.

Mr. Chairman and Gentlemen:—I am about to relate the facts connected with a small outbreak of scarlet fever, in which four cases in sequence presented an anomalous rash in addition to the typical one. I am the more encouraged to write on such a subject as scarlet fever on account of the avoidance in medical journals and by medical meetings at present of any reference to such a well known disease. In fact, scarlatina, measles, mumps, chicken pox, and such like sicknesses are being treated by the profession as diseases, about which everything is known and all their anomalies noted. Bacteriology, the recent advances in surgery, experiments with new drugs, and new theories of chloroform syncope, appear now to engross the whole mind of the profession. The consequence is that in our journals the matters discussed are generally on a level a little higher than that attained by the general practitioner, and articles which should owe their chief value to them, to their use in keeping one's mind fresh on ordinary points which he is perhaps forgetting, are generally not to be found.

What I am about to mention cannot be classed as important, but merely as interesting. That it must be uncommon, I gather from hunting through a dozen or more authorities, one only, Fagge, even mentioning a papular eruption. If but one case had occurred I would have thought nothing of it, imagining it from some accidental coincident cause. But four cases in sequence put the matter in a different light, and made me believe them to be abnormal cases of scarlet fever. I will now briefly mention them as I found them.

Bella R., aged six years, had been sick five days when I first saw her. Her mother, who gave me the history, stated that the illness began with vomiting, fever, and a sore throat; and that a scarlet rash appeared the next day. There were no catarrhal symptoms. On the legs and arms a "pimply" eruption had appeared, but left the day before my first visit. During the second and third days the child had been delirious, at which time also the urine had been scanty and high-coloured. I found the child free from fever; the throat still reddened and sore; the tongue of the typical strawberry type; and a slight persistence of the scarlatinal rash on the trunk and extremities. About the wrists the skin was rough from commencing desquamation, and the sides of the trunk were in a like condition. On the forearms and legs were a number of spots, varying in size from a pin's head to that of a split pea. These were of a faint purplish colour, which disappeared temporarily on pressure, and the skin over which was desquamating slightly. These spots corresponded to the sites of the "pimples" described by the mother which had disappeared the previous day. Three days later there was free peeling of the cuticle on the forearms, and in a week more the skin of the soles of the feet and the palms of the hands began to come off freely. The case evidently had been one of scarlatina, and at the time I looked on the mother's account of the "pimples," as she called them, as of little moment.

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* Read at the meeting of the Canadian Medical Association. at Ottawa, September 21st, 1892.

The second case was in Annie R., aged four years, a sister of the preceding. While Bella was convalescing I was called in to see Annie. I found her slightly feverish, with no catarrhal or anginoid symptoms, and no rash. I gave her some gray powder, and she was all right next day. But I was again called in two days later. She had then been sick about twenty hours. Her sickness began with vomiting and fever. I found her temperature $103\frac{4}{5}$°; pulse 160; the cheeks highly flushed; a slight scarlet rash on the thighs and arms, but a well-marked rash on the neck, chest and upper half of the abdomen. Her tongue was coated with a thick white fur, through which enlarged red papillæ projected. The uvula, fauces and tonsils were brightly injected. There were no catarrhal symptoms. On the next day the scarlet rash was more marked on the trunk, and slightly marked on the forehead. The cheeks were still highly flushed. The tonsils were swollen, nearly touching the uvula, with slight enlargement and tenderness of the glands at the angles of the jaw. The pulse was still high, 160 ; and the temperature 103°. A few miliary vesicles appeared on the arms. On the forearms and legs a few small dark-red papules had also appeared. On the fourth day, the only change seen in the case was in the augmentation of the numbers of these papules on the arms and legs. They had increased to about 150, and were of various sizes, from that of a rape-seed to that of a hemp-seed. They were irregularly scattered over the surfaces ; were discrete and of a dull-red colour, resembling that of a measley eruption, and were found in greatest numbers on the legs and forearms, with a few on the thighs and arms, and *none anywhere else.* Her mother said that these were exactly similar to the "pimples" she told me about which were on Bella, but that on the latter they had been much more numerous. And in her case, too, they had only appeared on the extremities. The next day the tongue had cleaned and was of the typical strawberry kind ; the soreness of the throat had lessened ; and the scarlatinal rash was rapidly fading. But what surprised me was that the papular eruption had completely disappeared. I had made arrangements to have it photographed, and was considerably disappointed at its sudden departure. In its place were the same spots of hyperæmia marking the site of each papule, which I had seen on Bella. The case convalesced without any fresh point of interest, desquamation being normal.

The other two cases I did not see myself, but on making inquiries readily found them ; and as the parties who had seen them were very intelligent, and the circumstances attending were such as were needed, I unhesitatingly accepted them.

One case was in the nurse girl in charge of these two children. She had had the disease a couple of weeks previously, and while it was as typically scarlatinal as those just narrated, she also had the papular eruption on her extremities. Her mother, when consulted, verified the girl's story, and as the girl herself nursed these two children through the attack and so saw the eruption when she declared that her's had been similar, I was justified in believing her.

Her sister, a nurse girl in a neighbouring family, made the fourth case, my information being as positive and similar. She, in her turn, communicated scarlatina to the child she was caring for, but it proved to be an ordinary case, no papular eruption appearing.

Before these few cases occurred, there had been in the neighbourhood, for two months or more, an odd case of scarlet fever appearing, and after them a few more, all of a mild type, La Grippe also was raging at the time.

In looking up authorities, the thought struck me that Rotheln might account for these papules. But the more I read the more I found that authorities contradicted each other. All agreed that it was a mild disease, with but slight anginoid symptoms, whereas one of my cases was severe enough to be delirious, and both had higher temperatures than are looked for in German measles.

The character of the eruption was also plainly scarlatinal, a finely diffused redness. This was the fundamental eruption in these cases, the papules being merely superadded.

Squire, in Quain's Dictionary, gives this definition of Rotheln, "a specific, eruptive fever, the rash appearing during the first day of the illness, beginning on the face in rose-red spots, extending next day to the body and limbs, subsiding with the fever on the third day, not preceded by catarrhs or followed by desquamation." But my cases, or at least the one which I saw during the whole course of her illness, did not develop the papular eruption until the third day, and not then on the face, as other authorities state, but on the extremities; and the cases were followed by desquamation. All the authorities I consulted were positive about there being no desquamation, but one, Bristowe, who says it is often followed by branny desquamation. But in these cases the cuticle peeled freely, coming off the wrists in strips, and off the palms and soles in large pieces. Bristowe also described the tint of the eruption as resembling that of measles, the spots being of a dusky or purplish hue. And he mentions the rash as sometimes assuming a papular character in places. It was after reading his description of Rotheln that I felt a need to establish my diagnosis of scarlet fever. But, even he, says the rash develops first on the face and rapidly diffuses itself over the whole body, attaining its height of development on the second day—that is, twenty-four hours before the papules began to appear on my cases. So that the anginoid symptoms, the high temperature, the early appearance of the fundamental scarlet rash and the late appearance of the papular one, and the free desquamation following, completely exclude Rotheln and establish scarlet fever as the correct diagnosis. Hence I am justified in bringing before your notice my notes of these unfrequent cases.

CASE OF TUBAL PREGNANCY.

RUPTURE BETWEEN SECOND AND THIRD MONTH—LAPAROTOMY—DEATH.

BY F. H. MEWBURN, M.D., LETHBRIDGE, ALBERTA.

Mrs. R., aged 29 years, was suddenly taken sick Aug. 29th last. On my arrival I found her in a state of collapse, evidently the result of internal hemorrhage. Great pain was complained of in the region of the uterus, but more so on the left side. Restoratives were administered and the woman rallied. She gave the following history: The attack came on suddenly while she was performing her usual housework, and was characterized by intense abdominal pain and fainting; she had missed two periods; had always been regular before; had had only one child, and that nine years ago; no miscarriages; for the last two months she had considered herself pregnant.

Vaginal examination was as follows: There was a slight discharge of blood from the uterus; os uteri dilated, admitting the tip of examining finger; on both sides of uterus and at the back, in the cul-de-sac, there was great fullness; examination very painful. Nothing could be gained by bimanual examination, as the patient was so stout.

The diagnosis was ruptured tubal pregnancy and an operation urged, but patient refused to consider it. During the next four or five days there was a mild attack of peritonitis, characterized by slight elevation of temperature, quick pulse, and pain; these symptoms gradually subsided, except the pain, which was always present, though not so intense as at first. On September 9th, eleven days after the first hemorrhage, a second one occurred, and the collapse was even more severe than that caused by the first attack. The woman rallied. Vaginal and rectal examination gave the same information as before, but the condition was much intensified,—the posterior wall of the vagina bulged out between the labia and the course of the urethra was distorted. The woman was now willing for an operation. As soon as possible she was removed to the Galt Hospital and laparotomy performed. On opening the abdominal cavity blood-clots presented everywhere—between the intestines, attached to the intestines and to the omentum, while in the pelvis, surrounding the uterus on three sides, was a mass of blood-clot that was with difficulty removed, and when removed, filled a quart glass; there was also about half this quantity of fluid blood. Amongst this mass was the fœtus and placenta. A rupture was found in the left tube, near its fimbriated extremity. The tube was clamped, ligated and removed. The toilet of the cavity was tedious. Hemorrhage at the time of operation was trifling. Hot saline solutions were used for flushing. A glass drainage-tube was placed in position, and the wound closed and dressed. The patient rallied for a time, then gradually sank, and died twelve hours after operation.

Remarks.—It is a matter of deep regret that the patient refused operative treatment at first, although strongly urged to submit to it, as in all probability, had she done so, her life would have been saved. After the second attack she was very anxious for an operation, and I considered that a laparotomy gave her the best chance for her life. Her removal to hospital was a matter of necessity owing to her surroundings and circumstances

Reviews and Notices of Books.

Naphey's Modern Therapeutics, Medical and Surgical. Including the Diseases of Women and Children. A Compendium of Recent Formulæ and Therapeutic Directions from the Practice of Eminent Contemporary Physicians, American and Foreign. Ninth edition; revised and enlarged. Vol. I—General Medicine and Diseases of Children. By ALLEN J. SMITH, M.D., Assistant Demonstrator of Morhid Anatomy, University of Pennsylvania; and J. AUBREY SMITH, M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1892.

The ninth edition of this well-known and popular work includes all the recent important additions to general and special therapeutics in internal medicine and diseases of children. The work, on the whole, is certainly one of undoubted value. It must be of great assistance to the busy practitioner to be able in a few minutes to refresh his memory with the leading indications in the treatment of diseases and how they are to be met.

A Text-Book of the Principles and Practice of Medicine. For the Use of Medical Students and Practitioners. By HENRY M. LYMAN, A M., M.D., Professor of the Principles and Practice of Medicine in Rush Medical College, Chicago. With one hundred and seventy illustrations. Philadelphia: Lea Brother & Co. 1892.

Between entirely new works and new editions of older works on medicine, there is a great choice for the practitioner and student of the present day. The most recent of the entirely new works is the one under consideration. Dr. Lyman is well qualified from experience to undertake the herculean task of writing a work to include a description of the entire range of internal diseases. The task is very well performed in so far as it is possible for any one man to perform it. The day is about past when even ordinary text-books of medicine will be the work of only one man. The sooner it arrives the better. It is impossible for any one man to be thoroughly conversant with the entire range of internal diseases. To make the nature and treatment of disease clear the writer should have exact and extensive knowledge.

Dr. Lyman's work will be popular with students and practitioners, as it is well arranged and represents fully the most recent knowledge. The sections devoted to treatment are clearly and well written, and are not padded with a mass of useless detail and accounts of methods better forgotten. The illustrations are numerous and are unusually well executed.

A Manual of Medical Jurisprudence and Toxicology. By HENRY C. CHAPMAN, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia; member of the College of Physicians of Philadelphia, of the Academy of Natural Sciences of Philadelphia, of the American Philosophical Society, and of the Zoological Society ot Philadelphia. With thirty-six Illustrations, some of which are in colours. Philadelphia: W. B. Saunders, 913 Walnut street. 1892.

This is a treatise of Jurisprudence and Toxicology, being a course of lectures delivered to students. The author offers no excuse for the publication, save the request from the students and the hope that others may be benefited, which, to say the least, is hardly a good aim for a book. What this small work contains is fairly good. Its chief fault lies in what it does not contain. It is to be regretted that so many books are made in these days whose value exists solely in the author's mind.

Histology, Pathology, and Bacteriology. A manual for Students and Practioners. By BENNETT S. BEACH, M.D., Lecturer on Histology, Pathology, and Bacteriology, New York Polyclinic. Students' Quiz Series, Edited by BERN B. GALLAUDET, M.D., Demonstrator of Anatomy, College of Physicians and Surgeons, New York; Visiting Surgeon Bellevue Hospital, New York. Philadelphia: Lea Bros. & Co.

To the already too numerous list of Quiz compends is added one on Histology, Pathology and Bacteriology, all comprised within the compass of 150 pages, including a most voluminous index. It is to be deplored that such injurious *tracts* as this, and the others of the same series, are allowed to flood the market. They take the same place in science that the dime novel does in literature, destroying a taste for what is true and useful. As such books are not scientific, so no true scientist would write one; in fact, it is only a mind cramped by mediocrity and disloyalty to science that could beget such lifeless images.

Hand-Book of Physiology. By W. MORRANT BAKER, F.R.C.S., late Surgeon to and Lecturer on Physiology at St. Bartholomew's Hospital, etc.; and VINCENT DORMER HARRIS, M.D., London, F.R.C.P., Examiner in Physiology at the Conjoint Board of the Royal Colleges of Physicians and Surgeons, and in the University of Durham, etc. Thirteenth edition. Philadelphia: P. Blakiston, Son & Co. 1892.

This standard publication is better known under the familiar name of Kirke's Hand-Book of Physiology, and that it has come to the thirteenth edition shows that it is a popular and useful work. The new edition is thoroughly revised and somewhat enlarged, and is fully illustrated, some of the plates being coloured. While not an exhaustive treatise on the subject, it is a most readable book and one on which a knowledge of physiology can be safely based.

The Essentials of Histology. Descriptive and Practical. For the use of Students. By E. A. SCHAEFER, F.R.S., Jodrell Professor of Physiology in University College, London. Third edition. Revised and enlarged. Illustrated by more than 300 figures, many of which are new. Philadelphia: Lea, Brothers & Co. 1892.

Schäfer's work has always been popular, and is considered by many competent histologists as the leading work on this subject. The third edition is in every respect, as far as we are able to judge, thoroughly up to the most advanced knowledge of the finer anatomy of the tissues. We have much pleasure in recommending the work as one of great value.

A Manual of the Practice of Medicine. Prepared especially for Students. By A. A. STEVENS, A.M., M.D., Instructor of Physical Diagnosis in the University of Pennsylvania, and Demonstrator of Pathology in the Woman's Medical College, Philadelphia. Illustrated. Philadelphia: W. B. Saunders. 1893.

This work was written at the request of the students and with the hope that it may serve as an outline of practice of medicine, which shall be enlarged upon by diligent attention upon lectures and critical observation at the bedside. In form it resembles a note-book, all superfluous words being omitted, and its chief use will be to save students taking notes of the lectures. It is too short and sketchy to be a good text-book, but it will be useful as a review, and to look up points when the practitioner has not time to consult larger works.

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Night and Day, a Record of Christian Philanthropy. Edited by T. J. Bernardo, F.R.C.S.E. Containing a resumé of the Gossage case before the House of Lords.

An Inquiry into the relative merits of Vaginal Hysterectomy and High Amputation or Partial Extirpation by Galvano-Cautery in Cancer of the Cervix Uteri, by John Byrne, M.D., M.R.C.S.E,, Surgeon-in-Chief St. Mary's Maternity, President of the American Gynæcological Society (1891-92), etc. President's Address, from Brooklyn Medical Journal, October, 1892.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, November 11th, 1892.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

New Members.—Dr. J. R. Spier and Dr. A. S. Wade were elected ordinary members.

Rhinolith.—DR. BIRKETT exhibited a rhinolith or nasal calculus removed from a woman aged 35, who for the past six or eight years had suffered from a chronic discharge from the left nostril. On examination, the entrance of the nostril was seen to be blocked by granulation tissue, and a probe, on being passed in one-quarter of an inch, impinged on a hard body. After reducing the temporary hyperæmia with cocaine, a body could be observed under the inferior turbinated bone, and was readily removed after being broken into two or three pieces, followed by complete relief to the catarrh.

DR. PROUDFOOT had removed a somewhat similar concretion from the nose of a child who suffered from a very fetid nasal discharge. The concretion was about the size of a marble, and he experienced some difficulty in fracturing it. The nucleus was found to be a small roll of paper. He thought that these concretions were generally phosphatic.

Carcinoma of the Ovary.—DR. LAPTHORN SMITH exhibited the specimens and reported the case, as follows:—The patient from whom I removed these two tumours was a married woman, 42 years of age, the mother of five children, the youngest of whom is 14 years of age. She has never suffered with her periods, and the menopause was passed three years ago. She had always enjoyed good health until June last, when she began to vomit constantly. In July her abdomen began to swell, and in September she first began to notice a swelling of the feet and legs. She then presented the following appearance. She was sitting bolstered up in a chair, her face dark-red in colour and almost cyanosed, her abdomen enormously distended, and her feet and legs swollen and pitting deeply on pressure. Her heart was extremely weak, rapid and intermittent, and at first I thought her a case of heart disease, gradually filling up with water, but I failed to detect any organic murmur or evidence of dilatation. She had been vomiting incessantly for several weeks, her bowels were very constipated, and she was passing only two or three ounces of dark-red urine daily. The abdomen was so much distended that a careful examination only revealed the fact that it was full of liquid and under great tension. Neither did an examination per vaginam show any indications of the presence of a solid tumour, the vaginal vault being merely bulged downwards by the weight of the superincumbent fluid. The urine contained one-fourth albumen. Under treatment with small doses of calomel and bicarbonate of soda the vomiting was stopped, and after a few weeks further treatment with digitalis the quantity of urine secreted in the twenty-four hours rose to sixteen ounces and the albumen disappeared. The legs became less swollen, but there was no improvement in the distension of the abdomen. As her condition was serious I determined to tap her, and, if necessary, perform abdominal section. I therefore took her into my private hospital on the 1st of October, and on the following day I introduced a very fine trocar into the abdomen, half-way between the umbilicus and pubis, and thus removed two gallons and a half of straw-coloured fluid in half an hour, without the patient experiencing any faintness or other unpleasant symptoms. As soon as a gallon of water had escaped, the abdominal walls became sufficiently relaxed to permit me to feel two large solid tumours floating freely in the abdomen; when all the water had escaped, the liver could be found very much enlarged. Although I feared that these tumours might be malignant I urged their immediate removal. It is interesting to note that during the days following the tapping the quantity of urine passed in twenty-four hours rose to thirty-five ounces, and became quite clear in colour. I presume that this may be explained by the removal of the pressure of the ascitic fluid which pressed heavily enough upon the kidneys to flatten them out or collapse them and so diminish the circulation through them. On the 5th of October, two days after tapping, I removed these tumours—one weighing, after the operation, seven and the other five pounds. I was assisted by Drs. Springle and Ritchie. The peritoneum was very much thickened, and the omentum was shrivelled up like a piece of scorched leather close up to the liver, which latter organ was very much enlarged and covered with metastatic deposits, but there were no adhesions. The abdomen was flushed with plain hot water, and the wound closed with silkworm gut sutures and buried in dry boracic acid powder. A drainage tube was left in for three days, and the silkworm gut sutures were left in twenty-four days, causing no discomfort whatever. She walked out of my hospital on the 30th October, looking and feeling very much better than when she entered.

The tumours present a fairly regular and very smooth appearance, there being only here and there smooth raised patches on their surface about an inch in length. On section, the cut surface appears like pure fibrous tissue, but on microscopie examination by Dr. Bruère, the characteristic cells of carcinoma could be detected. As there were no papillary or other cysts anywhere in the structure, this is without doubt primary cancer of the ovaries, although the disease is somewhat rare. The most interesting point in the case was the entire absence of symptoms pointing to disease of the ovaries. The patient maintains that she never had the slightest pain in the region of the ovaries. Unless I had removed the fluid it would have been impossible to have recognized the presence of the tumours, and the patient would have been dead ere now.

With regard to the advisability of operating, Winkel claims that isolated primary cancer of the ovary may be completely cured by early extirpation, although it fails, of course, to produce a radical cure when adjacent organs, especially the peritoneum, have already become affected. When the carcinomatous tumour can be readily extirpated the operation will remove the source of the ascites and tension, and at least temporarily contribute to the patient's comfort. He mentions three cases which not only bore the operation well, but were improved for months afterwards. I was somewhat surprised to find the patient make such pediculus; on examining the head the pediculi pubis were found. Dr. Campbell said that most authorities deny that such a condition is ever found, and he had only been able to find one recorded case.

Empyæma of the Antrum of Highmore.—DR. BIRKETT read a paper on this subject, which will appear in our next issue.

Discussion.—DR. MAJOR said that the paper covered the ground so fully that there was but little to add. He had, several years ago, tabulated 189 cases of myxomatous polypi, and among them antrum disease occurred thirteen times; more recently he has had ten cases, seven having myxomatous polypi and the remaining three hppertrophy of the turbinated bone. The origin of the disease is no doubt from dental causes even though the teeth may appear good, and whether it may be secondary to nasal disease, or that nasal disease follows antrum disease, is not settled. As to symptoms, the old classical appearance of deformity of the face is not now looked upon as a necessary feature; the odour of the pus is perfectly characteristic, and is not at all like that due to syphilis; another symptom is the redness of the gums, and is important, at least as corroborative. He fully agreed with everything Dr. Birkett had said about surgical treatment. He uses a steel-worker's drill, which is reduced to fit a dental engine; the operation takes two or three seconds, and is entirely painless. He looks upon the drainage-tube more as a means for washing out the cavity than simply for drainage. He then proceeded to explain the kind of tube he is in the habit of using; after the opening has been made, a wooden plug is introduced into it and a plaster cast is taken of the mouth and teeth, and upon this model a tube, which exactly fits the opening, is made.

DR. SHEPHERD had seen three cases lately, two having had sinuses above the pre-molar tooth; he removed the tooth and scraped through into the antrum with a Volkman's spoon. He did not see the use of so many instruments, and thought too much stress was laid upon the washing out of the antrum; in empyæma of the thoracic cavity a general washing is done once only.

Dr. Buller quoted a case of iritis following the operation by a general surgeon, and thought that the success of the special surgeon was entirely due to his attention to detail and so the instruments he uses.

Dr. Proudfoot fully agreed to the necessity of frequent washing of the cavity, for the cleaner the parts are kept the better for the patient.

The Late Dr. Geo. Ross.—The following resolutions of regret at the death of Dr. George Ross were proposed by Dr. F. J. Shepherd, seconded by Dr. A. Proudfoot, and carried by a silent standing vote :—

" *Resolved,*—That this Society has learned with the profoundest sorrow of the death of Dr. George Ross, a past-President and one of its foundation members. Dr. Ross's wide clinical experience and intimate knowledge of disease, combined with his remarkable powers of observation and judicial criticism, made him a most valuable member. The various papers and reports contributed by him from time to time to this Society were always received with the greatest interest and listened to with the closest attention.

" *Resolved,*—That Dr. George Ross' death, at the early age of 47, is a grievous loss to the medical profession of Canada, of which he was so great an ornament, and in which he exercised so great an influence, not only as a clinical teacher and writer, but as an active member of the various medical societies and corporations in whose work he took such a prominent part.

" *Resolved,*—That a copy of these resolutions be sent to the relatives of the late Dr. Ross and to the daily press."

Selections.

Thrombosis and Embolism in Fatty Heart; Use of a Valuable Stimulant.—(By W. Langford Symes, Kiltegan.)—Of equal rarity, interest and danger, the following notes may help to illustrate an untoward event which will sometimes be found to happen in the course of cases of heart disease, though happily more frequently heard of than seen. In vegetative valvulitis, especially of the aortic orifice, one is naturally mindful of the possible occurrence of embolism at any moment, but when no valvular disease exists, or is clinically inappreciable, such occurrences are very infrequent, their origin in fibrination depending upon vital conditions which are very rapidly fatal or only recovered from under the most prompt and heroic remedies. Aid is, however, so seldom at hand that such cases usually reach us an instances of "sudden death," or are exhibited as pathological specimens of "*ante-mortem* clot." Of such nature was the following case:—

A spare, feeble man, of about 45, consulted me for great "weakness," fainting on exertion, inability to walk up a hill, or even much on the level; coldness of the extremities, headaches, and difficulty in breathing. On examination there was evidence of fatty metamorphosis of the heart, with sounds very weak and "clicky," and the impulse very faint, but no *bruit* over any of the valvular areas. He suffered from advanced anæmia. For some time he was able to walk to see me, and his condition was much improved by a mixture of—Ferri et ammon. citrat.; ammonii iodidi; liquoris arsenicalis; liquoris strychninæ; with a liberal nutritious dietary and gentle exercise in the open air. His occupation was that of a night watchman, but this he was frequently obliged to relinquish owing to his health. He now unfortunately contracted an acute bronchitis, which was with great difficulty prescribed for, owing to the weak condition of his heart-muscle not admitting of antiphlogistic remedies. This much aggravated his condition and produced great dyspnœa. Eventually it was removed and he again recovered, having, however, some hypostatic congestion in the bases of his lungs.

Examining his chest one day as he lay in bed—having found for the first time a murmur over the pulmonary area—I gently sat him up to examine his back, propping him carefully with pillows, while his wife held him at the opposite side. I did not hear him breathe, and on again telling him to take a full breath, no air entered the base of his lungs. On looking at his face I was horrified to find that he was perfectly white, and to all appearances dead. We at once laid him back and held him up by the heels, applied mustard to his heart, epigastrium, arms and legs, and gave him several hypodermics of ether; but although his wife poured some brandy into his mouth, and his lips were freely sprinkled with liquor ammon. fortior (which he always had at hand), he did not breathe. There was no pulse, no sound over his heart, no respiration; his eyes were glassy and fixed; he could not swallow, and severe slapping of the epigastrium had no effect. Having exhausted all available stimulants, and recollecting that I had read somewhere of the value of a hot spoon applied to the epigastrium in states of asphyxia or syncope, I took a hot lump of coal from the fire with the tongs, and applying it over the xiphoid cartilage once or twice, was gratified to find it produce powerful contractions of the inspiratory muscles. This was kept up severely around the insertion of the diaphragm until, by degrees, respiration returned, his eyes opened, his heart beat, and the colour came back to his face. He then took some brandy, and finally rallied. Next day he complained of great pain in the left thigh, the inner side of which was acutely tender, most marked in the middle third. The limb was cold, and there was considerable loss of sensation, with inability to move the leg freely. A hard, knotty, cord like condition was felt over the vessels, in the neighbourhood of the profunda femoris artery, very closely resembling that found in phlebitis. There was no œdema, but, on the contrary, the leg was small and blanched. With poppy fomentations, flannel bandages, and hot jars the pain was relieved, and collateral circulation encouraged; and after a considerable lapse of time he regained its use completely, finally recovering sufficiently to resume occupation, but of a much milder nature.

Since healthy blood, freely propelled through healthy vessels by a healthy heart, will not coagulate, any disturbance of this equilibrium, whether *cardiac*, *vascular*, or *hæmic*,, may readily produce thrombosis, and this is even more serious when affecting the vessels of the venous and pulmonary than those of the systemic circulation.

Although the intimate relations between coagulation and its immediate cause is still an unsettled point, the most modern pathologists agree that some minute endothelial change of structure is a necessary antecedent in all cases, even those where a hæmic influence is most at work. Thus, where the blood is primarily affected (cf. pyæmia, the puerperal state, etc.); there must be some peculiarity of structure or function in that part of the vessel at which fibrination takes place—some physiological affinity between the endothelium and fibrin factors which induces this deposition. Feebleness of the circulation, from a weak propelling power, is, however, amongst its powerful predisposing causes, cardiac thrombosis commonly occurring shortly before death. Here some blood remains almost stagnant in the half-emptied auricular appendix or apex of the ventricle, where, should the structure of the intima present any abnormality, gradual deposition of fibrin takes place, a so-called "cardiac polypus" forms, and this, unless detached to plug some distant vessel, may suddenly occlude an orifice and produce instantaneous asystole. This was evidently the case in the instance cited, and the difficulty in dislodging the thrombus was only exceeded by the anxiety of the moment, and the remorse that I had caused it myself.

Of these globular *ante-mortem* clots, or cardiac polypi, an interesting specimen, hanging from the left auricle, is beautifully depicted by Dr. Norman Moore in his "Pathological Anatomy of Disease."

That fatty metamorphosis of the heart, without appreciable valvular disease, thus induces thrombus in its cavities by a *structural* instead of an *adynamic* process, is a matter easily accepted. The degeneration is essentially structural when once set a-going by the dire influence of malnutrition, and although the only conclusive proof of its pathological existence is microscopic evidence that the muscular discs have been replaced by fat granules, with chemical change of the cell protoplasm, the heart may be so altered in advanced cases as to present to the naked eye the appearances of paleness, friability, or the peculiar transverse "zig-zag" markings with light bands, frequently found on the carneæ columnæ and musculi papillares of the mitral curtains—the so-called "tabby-cat striation."

Thus, from want of evidence to the contrary, we believe that slowing of the blood-current from weakness of the heart is a subsidiary factor, and the constant antecedent of coagulation while the blood is flowing is some change in the intima of the vessel. On this point most modern pathologists are now agreed in the case of thrombus in a vessel, and similarly we may take cardiac thrombi in a fatty heart as the direct outcome of structural changes in its lining membrane, frequently apparent even to the naked eye.

We know that certain conditions of the blood favour the formation of thrombi—*e.g*, anæmia, fevers and wasting diseases, septicæmia, cachectic or "marantic" (Virchow) states, etc., but here, again, we have no evidence that the *modus operandi* of these conditions is other than a capillary interference with the nutrition and vitality of the vessel at some particular point. Even extreme passive congestion, or stagnation, in veins, is now believed to favour coagulation by interfering in the first instance with the nutrition of the vessel wall.

Thus, as soon as perverted endothelial function is succeeded by alteration in its structure, as soon does the mysterious vital equilibrium between the blood and its containing "tunica intima" become disturbed at a given point, and thus arises the main factor in the production of all coagula. The initial steps in the next stage of the process are, according to one noted physiologist (Bizzozero), now taken by the "blood plaques," or elementary blood corpuscles, but thus far only can we safely speculate in the present state of our pathology.

The murmur heard immediately before the accident over the pulmonary area was, I believe, due to coagulation in the left auricular appendix, since it was never previously detected.

In a lecture delivered at St. Bartholomew's Hospital in June, 1890, Sir Dyce Duckworth cites an almost parallel case of embolism of the profunda femoris, followed by aneurysm and fatal rupture of the sac into the tissues of the thigh. This patient had, however, advanced aortic patency, the embolism occurring on the tenth day after admission, and the vessel bursting twenty-one days later, proving fatal in eleven hours. Here also it closely simulated thrombosis of the saphena vein, but there was no œdema of the leg.

Should the wonderful value of such a simple, powerful, and ever-available stimulant be recognised from these notes, the chief object in their publication will have been achieved, and some future lives perchance saved.—*Dublin Journal of Medical Science*, September, 1892.

A Case of Plica.—(By Henry W. Stelwagon, M.D.)—This somewhat unique case, the notes of which I herewith briefly present, came under my notice some months ago. The patient, an extremely ignorant Irishwoman, aged 40, had been in this country but some weeks when she applied at the dispensary for treatment for an ordinary acne eruption At her second visit she was accompanied by her sister and brother-in-law, who desired to call my attention to a peculiar hair growth upon the patient's scalp. The hair, upon disarranging for examination, was found, with the exception of the part referred to, to be normal, and reached to the shoulders. From a dollar-sized area in the middle of the occipital region, however, well down toward the neck, the hair had grown into a felted lock, about the thickness of a thumb, and four feet one inch in length—extending, in fact, to the patient's ankles. The skin from which it sprang was normal, and the hair arising therefrom for about three-fourths of an inch from the scalp exhibited no tendency to felting or irregularity ; beginning here it rapidly passed into a soft, closely-felted mass with an irregularly smooth surface, with here and there hair ends projecting. Towards the extremity the lock for several inches began to taper, and terminated in a brush-like end of about the thickness of a small finger. The mass was dry, without stickiness or offensive character, and free from vermin. The growth had begun twelve years back, and it had been gradual. When the sister who had accompanied the patient to the dispensary left Ireland ten years ago, the lock, as she remembered it, was then six or seven inches longer than the other hair and presented the same felted condition. The growth in all its aspects was carefully examined, and gave no evidence of being in any way due to lack of care or want of cleanliness; moreover, there was no sign or indication that the patient herself was at all responsible for its existence. So far as could be determined by careful investigation, this curious formation had been of spontaneous origin, slowly becoming longer and longer, and that, too, without any corresponding growth or tendency to felting of the hair of the rest of the scalp. In this instance, as, indeed, in all cases of plica, the patient and her relatives and friends looked upon it with more or less awe and superstition. I regret to say that my failure to recognise the full depth and import of this reverential feeling lost me an opportunity for the further study, macroscopical and microscopical, of this unusual formation, inasmuch as an unfortunate suggestion made as to the advisability of cutting the lock off close to the scalp (with the idea in view of ascertaining whether the new-growing hair would exhibit the same tendency) was met on all sides with fear and doubt, and led, I believe, to the patient withdrawing herself from observation.—*Amer. Jour. of Med. Sciences*, December, 1892.

Barber's Itch.—Gottheil (*Medical News*, Sept 24th, 1892) writes on this subject. He says that the term barber's itch" is used by the laity to designate any disease affecting primarily the skin of the bearded portion of the face. In many cases the barber has nothing to do with them. Three separate and distinct diseases are common upon the bearded face. There are others, but they are of rare occurrence; and others that occur primarily on hairless portions, and may extend to the beard; and still others to which the integument covering the jaws and neck shares a liability with the rest of the dermal covering. These we may leave unconsidered; their rarity and their other symptoms remove them from the category of barber's itch. The three diseases commonly seen upon the bearded face are—

1. Eczema barbæ, or ordinary eczema.
2. Perifolliculitis barbæ, or sycosis non-parasitica.
3. Trichophytosis barbæ, or sycosis parasitica, or sycosis, or ringworm.

Let us briefly consider their distinguishing features.

1. *Eczema barbæ* does not differ essentially from eczema as it occurs upon other portions of the body. It is a superficial, catarrhal inflammation of the skin, slightly modified by location. It is not necessarily confined to the hairy parts, since the capillary structures are not primarily involved. Hence it may spread from behind the ears, or from the alæ nasi to the bearded face or lip; or, beginning on the hairy skin, it may involve the lips, nose and ears—favourite seats of the eczematous process. The integument affected is reddened and swollen, and secretes abundantly the peculiar gummy serum characteristic of dermal catarrh. The hairs are matted together, and, with the serum, form dry, brownish crusts. In every case, however, the skin itself is intact; a catarrhal inflammation never causes ulceration or destruction of tissue. Removal of the gummy crusts discloses a reddened, inflamed, weeping skin, but no cicatricial tissue or destruction of the hairs. The patient complains much of the itching, as well as of the disfigurement and discomfort caused by the scabs.

2. *Perifolliculitis barbæ* rejoices in as many names as does the heir to a European throne. One of the commonest is sycosis, either alone, or with the adjunct "non-parasitic." This name is to be rejected. It does not describe the disease, and it leads to endless confusion with parasitic sycosis. Both maladies, in fact, are called "sycosis," simply, by different authorities. Perifolliculitis, on the other hand, is descriptive and unmistakable, and it places the malady in its natural relationship with perifollicular inflammation of other portions of the skin.

Perifolliculitis of the beard consists of a pustular inflammation affecting the hair-follicles and the tissues in their immediate vicinity. It therefore commences in the beard, and is strictly limited to it. It begins with the appearance of a few red, conical papules, each of which has a hair implanted in its centre. The skin between the papules is unaffected. The cell-exudation soon leads to pus-formation, and we have the characteristic lesion of the disease, an inflammatory pustule pierced by a hair. These hairs, though firmly implanted during the early papular stage, are, of course, loose during the later pustular period, extraction being then painless, the entire hair-sac lying loose in the minute abscess. Not every hair of the area affected is involved, so that there are always healthy tissue and normal hair between the diseased glands. But each hair-follicle affected is destroyed; a minute scar takes its place; other follicles in the neighbourhood are subsequently affected; and so, finally, extensive areas may be denuded of hair, and the place of the skin be taken by a thin expanse of cicatricial tissue.

3. *Trichophytosis barbæ* is known as parasitic sycosis (a name to be rejected for reasons already given), and as tinea barbæ, and is simply a ringworm of the beard. It may or may not coexist with ringworm of neighbouring or distant parts of the body. When fully developed, its appearance is quite characteristic. The hair of the beard being very deeply implanted, reaching far down into the subcutaneous connective tissue, the growth of the parasitic fungus is not interfered with by the connective tissue of the cutis; it develops freely, and soon leads to the formation of large, deep-seated nodules and tubercles. These masses are characteristic. The surface of the skin may be normal in some places, whilst in others it is fissured, inflamed, or desquamating. The hairs issuing from the nodular masses are broken off close to the skin, and are frayed at their ends, as in ringworm of the scalp. Suppuration around the follicles and permanent destruction of the capillary structures result.

These three maladies, then, constitute the unscientific entity known as barber's itch. The differences between them are usually so marked that the diagnosis is easy. How are they to be avoided? If the hygiene of the barber-shop were all that is necessary, our task would be an easy one.

Eczema of the beard is in no sense a contagious disease. It has never been caught by one patient from another suffering from it; it is not inoculable. Yet more than half of the cases of barber's itch are cases of simple eczema. Neither the barber nor any of his customers has anything to do with it. Eczema of the beard, like eczema elsewhere, is due to certain external and internal conditions. External irritants, chemical or mechanical, will cause it; and an acrid nasal discharge is responsible for a considerable number of eczemas of the upper lip. The internal causes are not very definite; but it is agreed that dyspepsia and inefficient renal action predispose to dermal catarrhs. The avoidance of this form of barber's itch is therefore dependent upon the avoidance of certain external irritants and the care of the general health. Improper—*i.e.*, too strongly alkaline—soaps are especially to be avoided, and the digestive and renal functions should be kept in order.

Nor is perifolliculitis of the beard a contagious disease, save in the limited sense that all pus may be contagious under certain conditions. Irritating powders and cosmetics, exposure to dust or to intense heat, are the causes of the malady, which is especially likely to occur in those in whom the hair of the beard is stiff and wiry. A localized or mild eczematous condition often causes so much irritation that the finger-nails are freely used, and by these foci of purulent infection pus-organisms are implanted in the hair-follicle. Thus eczema and perifolliculitis frequently coexist, but the predominance of one or the other morbid process is generally marked. The prophylaxis of perifolliculitis consists, of course, in the avoidance of the agencies that cause it. The face-powders used after shaving are undoubtedly responsible for some cases. Thus, again, in this second variety of barber's itch the barber is entirely innocent.

Ringworm of the beard, the third and last variety, is a frankly contagious disease. Whether or not there is more than one variety of the trichophyton parasite is a question still under discussion; but ringworm of the beard is always derived from another case of ringworm, and this malady is sometimes carried from one person to another by the barber. I say sometimes; I might say rarely, for the chances of contagion in this manner are small. The razor itself touches the skin only with its edge, which is frequently wiped and stropped; the fungus could hardly adhere to its blade. The lather-brush, the towels—but especially the barber's hands and finger-nails—are the mediate carriers of the contagion. The prophylaxis is cleanliness; boiling of the towels; thorough cleansing of brushes, or, better still, individual brushes and cups; the use of the nail-brush on hands and finger-tips after each shave; with these, ringworm of the beard may surely be avoided. There has been improvement in the hygiene of the barber-shop of late years, but enough cheap and careless ones remain to maintain in our dispensaries and clinics a steady, though small, stream of cases of trichophytosis barbæ.

And now as regards the cure of these diseases of the bearded face, they are frequently obstinate, prone to relapse, and annoying to the physician. An accurate diagnosis is necessary, for in certain essential particulars the treatment required differs in these three maladies. Certain general rules may be laid down. The general health must be cared for; the gastro-intestinal and renal functions must be examined and regulated; sources of irritation—bad soaps, dusting-powders, exposure to dust and to the inclemencies of the weather—must, if possible, be eliminated. Nasal and aural discharges must be cured.

Fracture of the Vertebral Column caused by Muscular Action.—M. Verneuil (*Rev. de Ther. Med.-Chir.*, Oct. 15, 1892) mentions the case of a man aged 49, in whom a fracture of the vertebræ was caused by a severe effort, due to slipping on the ice. There was intense pain, which yielded to rest. There were two attacks later due to the same cause. Five months later a prominence was made out, which led Verneuil to believe that a fracture had been caused by the muscular action. He treated it with a jacket of plaster and moulded leather. The conclusions drawn were that such fractures are difficult of recognition, that it is well to treat injuries to the spine with more care than is ordinarily shown, and that plaster jackets are required much more frequently than is usually thought. M. Polaillon reported a somewhat similar case, where the sixth cervical vertebra had been fractured by muscular action. He immobilized the neck by means of a plaster collar, but the patient, believing himself cured, went to work too soon and suddenly died. The autopsy showed a hemorrhage compressing the cord.

Etiology of Whooping-Cough. – Galtier, (*Lyon Médical*, Dec. 11, 1892), sums up the conclusions arrived at from some experiments regarding the causation, as follows :

1. Whooping-cough is due to a microbe.
2. It is caused by an aerobic germ which is easily cultivated, which exists in the more solid portion of the expectoration, and is of a rounded form.
3. That inhalations and gargles of turpentine are most useful in the treatment.
4. That it can be transmitted to certain animals (rabbits, dogs, chickens), but the dog and the hen are most susceptible.

Treatment of Lupus.—Thayer (*New Orleans Med. and Surg. Journal*, Nov., '92) gives the treatment as follows :— The very first indication in commencing the treatment of lupus is to endeavour to modify the general condition by appropriate treatment. The patient should at once be placed under the best hygienic influences, with proper food and regimen. The system of the patient should be newly built up as it were. The disease itself is to be combated at the same time by such external and internal remedies as appear to exert a salutary influence on the development and progress of tubercles and the ulcerative processes. Local applications to the ulcerative surfaces, such as caustics and powerful astringents, have been generally relied upon, Nitrate of silver, potassa fusa, butter of antimony, supernitrate of mercury, arsenical powders and pastes, scraping out the diseased tissue with curette or spoon, and last, but not least, "the solar cautery," using the concentrated rays of the sun for this purpose. When the disease is extensive the cauterization should be done with great caution. It should be confined to a single part at one time, and from time to time extended successively to the whole of the affected surfaces. When the ulcers are covered with scabs they must previously be gotten rid of by the use of poultices. During the treatment the patient should avoid exposure to heat or rigorous cold, and dampness. For want of attention to these precautions cicatrices that appeared sound have frequently been seen to open again afresh. When the disease is accompanied with any violent functional disturbance this must be remedied by appropriate treatment; preparations of iron, iron with bitter compounds, iodine preparations, sulphur baths, etc. The unmedicated baths of hot water, used daily, have, under my directions, proved of great value in lupus. Food of good quality well cooked, a residence in a dry and bracing atmosphere, are powerful modifiers of constitutions; cheerful surroundings, proper moral influences and encouragement act as tonics to the depressed mind and render life more valuable to the individual.

I now come to what I consider the most important and instructive point in this paper; to wit: The successful treatment of lupus with concentrated rays of the sun, which I have named "the Solar Cautery." Some twenty-five years ago, while experimenting with a common lens (small sun-glass), I focused the rays of the sun upon a small mole upon my arm. Instantaneously it began to smoke, and within a few seconds it was destroyed: No pain or inflammation followed the operation; the burned surface healed readily, leaving no trace of its former self, not even a cicatrix. This simple experiment suggested the idea that the lens could be used with success in destroying morbid growths. I at once put this idea to practical tests. From that time to the present I have continued to make use of the solar cautery in a variety of surgical diseases, and have rarely indeed experienced any disappointments. It has advantages over and above all caustics. Some of these are the following: It is, at all times, under the control of the operator. Its action stops the moment the lens is removed. No pain follows, as the concentrated sun rays act as an anæsthetic. It will destroy morbid tissue, while the adjoining normal tissue remains uninjured owing to its great vitality. Very slight inflammatory action follows its use.

In a case of extensive disease of the upper lip the solar cautery was used as follows: After a most thorough and critical examination of the diseased tissues, and learning from the patient (a very intelligent, common-sense lady) the history and treatment of her case during the last two years, I decided to apply the solar cautery to the diseased surfaces. My confidence in this remedy gave me great hope that the treatment would prove successful. With a powerful lens with a focal diameter of three lines, with a clear sky and unobstructed sunlight (essential in the success of the use of the solar cautery), I most thoroughly cauterized the diseased surfaces, destroying the morbid tissues. This was accomplished in the space of two minutes of time. The cauterization was not very painful at the burning, all pain ceasing after the removal of the lens. I cannot recall one single instance where severe pain continued for any length of time from the use of the cautery. Having treated by this method more than one thousand cases, I certainly would remember some of those complaining of severe pain after the operation. I dressed the burned surfaces with zinc ointment, over which was placed a layer of absorbent cotton, wet in a 5 per cent. solution of carbolic acid, followed by a thicker layer of dry cotton. The next day there was more or less swelling of the parts, some redness of the adjoining skin, with more or less tenderness. Thirty-six hours after the operation an improved condition was visible. The same dressing was continued, being changed daily. The improvement went rapidly forward, the discolouration of the lip and nose disappearing from day to day. Two weeks after the operation this lady presented herself at my office with the ulcerated surfaces most thoroughly healed, with a slight but smooth cicatrix. The discolouration of the skin in the immediate neighbourhood had disappeared and the diseased surfaces assumed quite a natural appearance. This patient left me, as you will naturally anticipate, a very grateful and happy woman.—*Pacific Medical Journal.*

Cardiac Syphilis. (By Prof. Mariano Semmola.)—Syphilis of the heart forms a recent chapter of internal pathology and clinical medicine; nevertheless, I believe it deserves the fullest attention, not only with respect to the ætiolology of heart affections in general, but also from the standpoint of treatment, since we possess a fairly marvellous therapy in syphilis. All cases of cardiopathia in which the lues form an etiological factor may be substantially modified by radical treatment; and in these instances the good offices of the physician should not be confined to the transient and symptomatic results which are to be achieved with so-called heart-remedies. In the following I shall not dwell on the cardiac affections which, of secondary character, follow more or less localized syphilitic arterites, nor upon those cardiopathias which are developed under the influence of either diffusing arterio-sclerosis or arterio-sclerosis of the coronary arteries. Nor shall I treat of the primary valvular cardiopathias in acute arthritis rheumatica which are accidentally accompanied with syphilitic lesions of the heart.

I shall here limit myself to directing your attention to an altogether different species of primary heart affections, which gain their development in veteran syphilitics and which may frequently reach the degree of a severe, non-compensated heart disease, to say nothing of the influence which an ancient and latent syphilis may have on the development of these heart diseases. These latter heart affections, which, as it seems to me, have received scant consideration from the clinic, constitute the most treacherous and fearful cardiopothias, since they often begin with insignificant functional disturbances, which are regarded as nervous phenomena; and, in truth, neither auscultation nor percussion reveals the signs upon which a diagnosis of organic heart-defect may be based, although an organic lesion already exists. The latter, however, is still so slight, and develops so slowly, that the manifest signs of a morbid process of the myocardium, of the heart ventricle, etc., are not yet presented, simply because *they cannot exist*, the initial morbid process not having as yet produced those subsequent pathological phenomena (dilatation, hypertrophy) which form the ominous clinical tableau of a heart disease. The patient neglects these as yet unimportant functional disturbances, and is content with the employment of some calmatives. Meanwhile the morbid process progresses insidiously. aggravating from day to day, and finally assumes formidable proportions, so that then—and frequently too late—the attention of the patient and the physician is seriously directed to the malady.

Among these rudimentary functional disturbances there is also one apparently insignificant symptom which the physician as a rule regards slightingly. I have seen patients and physicians lull themselves into confidence, not suspecting that they had before them a serious *arythmia*, uncomplicated or (as is frequently the case) accompanied with tachycardia. Every day clinical lectures and treatises are published on the therapy of cardiac arythmia; its nervous or arterial origin is discussed; we decide upon the use of antispasmodics, or we recommend atropine, preparations of bromine, and, in cases of arterio-sclerosis, iodine combinations as well; but in none of these papers have I seen allusion to a continuous persisting arythmia which resists all such medication. And yet there is such an arythmia; and when it fails to yield after essaying various methods of treatment, I believe the physician is justified in assuming the existence of a latent process of the myocardium, syphilitic in origin, and in at once beginning the specific treatment, as we know full well that the mercury treatment when tardily commenced is of no use; for the final anatomical sequelæ fatty degeneration, scleroses are no longer amenable to the curative influence of mercury.

The relations between syphilis and the heart were announced as early as 1859 by Virchow, on the basis of simple anatomico-pathological observations. Nevertheless, for a long time the clinic gave scant attention to this subject. In recent years, for the first time, isolated studies of "syphilis of the heart" have been published by Bogosslowsky, Jakarine, Nekan, Lang, Mauriac, Jullien, and some others. In general, all these authors based their reports either upon clinical cases of cardiopathia which were cured by the mercurial treatment, or upon anatomico-pathological observations of cases which *intra vitam* had exhibited very severe cardiac symptoms, discovering an autopsy simple or gummatous myocardites which revealed their syphilitic character.

Such is the present condition of this question. Inasmuch as I have always cherished the conviction that those heart diseases are the gravest which originate in defective nutrition of the heart muscle, with or without points of localization, although always in connection with dystrophic inflences proceeding from the general nutrition, I have devoted my attention to this subject since the year 1883. At this time I had opportunity to observe a cardiopathic physician with the severest symptoms of a non-compensated heart affection. All known tonic heart remedies were employed, but without avail, and the patient's doom seemed inevitable. From the account of his life I learned that he had once contracted syphilis; that the gravest syphilitic phenomena had repeatedly made their appearance; that they had always, however, been caused to vanish by appropriate mercury-iodine treatment. In coming under my observation the patient exhibited absolutely no syphilitic symptom. In such instances, however, I have long adhered to an invariable principle, imparted to me thirty-five years ago by my master, Ricord, who was wont to declare: "If syphilis has once indubitably been contracted, then everything is possible—even the impossible." I therefore began to treat my patient with subcutaneous injections of sublimate, and prescribed large doses of sodium iodide (5 grammes within 24 hours). After four weeks of this treatment I presented the patient to my pupils; he was almost free from œdema, without palpitations, without arythmia, etc. The improvement continued, and our patient was enabled subsequently to resume his medical practice, and this without the administration of digitalis or any other cardiac remedy.

Since that time I have never, in my examinations of cardiopathic patients, failed to take into account their possible syphilitic antecedents. Thus I have been enabled to classify all my cardiopathic patients in two well-defined groups. In the following I mention another case, the last observed by me, to which I would direct your special attention.

Baroness B., æt. 45, has led a "joyous" life for twenty-five years, and has repeatedly disclosed the most classic symptoms of syphilis. During September of last year she came to me for treatment. Patient stated that in the main she felt very well and suffered from no pronounced complaint; in mounting stairs, however, she experienced great irregularity of the pulse and dyspnœa. She had already consulted various physicians, who in turn prescribed atropine, sparteine, and other medicines, without producing any improvement in her state. A nervous arythmia had been diagnosed, because, in truth, the most rigid physical examination failed to reveal either a noise or any focus of alteration of the heart. I could not, however, convince myself that a purely nervous arythmia would be so persistent as the patient declared. I recommended absolute rest for three or four days, and explained to her that a daily examination of her condition would be indispensable, in order to obtain an assurance with respect to the persistence of her arythmia. After I had satisfied myself that this arythmia did not cease, even with absolute rest of the body and mind, I concluded, in view of the lady's antecedents, that her arythmia was not of nervous origin, that the case was rather one involving the sequelæ of a syphilitic infection (probably an initial myocarditis or a gummatous infiltration)—although a close external examination of the patient failed to disclose the presence of any characteristic signs of syphilis.

On the basis of this diagnosis I was, of course, obliged to prescribe a specific and rigorous treatment, as in the previous case (sodium iodide per os, and sublimate injections, during the first month ; subsequently, for the period of five months, inunctions of mercury—1 gramme daily). The arythmia, as well as the disturbance of breathing, vanished completely within two months, and the patient at present enjoys excellent health.

As before stated, I have never omitted, since the first case of syphilis of the heart came under my notice in 1883, to enter upon a specific treatment with cardiopathic patients who have previously suffered from syphilis—of course, observing all the precautions indicated by the general condition of the patient, and keeping in sight, above all, the cachexia, that I might not later have occasion to deplore the unpleasant after-effects of the treatment. To this treatment I resorted especially in the cases of cardiopathia not attended with noteworthy alterations of the valvular apparatus, and, above all, in those cases in which treatment with cardiac tonics had proved futile.

In a large number of cases I have been able to establish some improvement in the general condition and in the heart function without achieving ultimate success, and the fate of these patients was about the same as if they had not undergone the specific treatment. Nevertheless, even in the latter cases I had the conviction that the specific treatment was very well borne—a fact which I was enabled to corroborate through hæmochromometric examinations, which I have been making in my clinic for the past three years for the purpose of estimating the action of the so-called alterative medicaments. It is certain that if under the influence of the mercurial treatment the quantity of hæmoglobin increases, even though in slight measure, there must exist in this organism a special susceptibility to the biochemical action of the mercury, without which this agent would undoubtedly tend to destroy the red blood-corpuscles.

The slight general improvement, however, naturally could not, as I have before stated, exert any favorable action on the last alterations of the syphilitic process of the heart. The improvement of the general condition in a large number of cardiopathic patients in whom the anamnesis disclosed syphilitic antecedents, nevertheless, shows peremptorily that if the specific treatment had been instituted earlier these patients might have been enabled to escape their doom and live much longer. Hence, if the chapter of cardiac syphilis from the pathologico-anatomical point of view may be regarded as sufficiently illumined, the same does not apply to the diagnosis, to which in this study I desire to make a contribution.

Besides this series of cases which, as stated, seem dubious owing to the very incomplete and transient curative results, in the course of nine years I have collected a second series of cases (twenty-seven in all) in which I was in position to enter upon specific treatment immediately at the beginning of the cardiopathia, as in the instance of the Baroness B. cited. The classic symptom of such a commencing cardiopathia is the *persistent arythmia*, at times uncomplicated, at times accompanied with tachycardia, with the occasional collateral symptom of *impeded respiration*. In all these cases there is not the slightest valvular defect involved. The objective examination revealed only persistent cardiac ataxia. After meals or during states of emotion the arythmia at times increased into a veritable *delirium cordis*. The heart, however, never returns to its normal rhythm—not even after prolonged rest or during sleep. Almost all these patients were enabled to follow their occupations and suffered no difficulty in breathing, provided they did not over-exert themselves in their labours.

All the twenty-seven patients who have come under my treatment in the course of eight years enjoy to-day a perfect cure from their arythmia. With each patient the specific treatment was renewed every year for two or three months, while the iodine treatment was continued throughout the year.

I believe the following conclusion may be drawn from my clinical observation: "When a patient who has passed through an unquestionable syphilis presents himself to the physician with symptoms of persistent arythmia which yields neither to hygiene nor to pharmaceutical remedies, the physician must straightway assume that a syphilitic process is at the bottom of the trouble, and he must prescribe to the patient a specific treatment, even if there be no symptom exhibited at the time to supply a palpable proof of constitutional syphilis."

In more fortunate cases, where the mercurial treatment produces cure, do we encounter a beginning myocarditis or a gummatous infiltration? In this respect I must avow my ignorance, and I confine myself to the establishment of the therapeutic connection between an obstinate arythmia, recovery through specific treatment, and the assumption that this functional disturbance is related to a syphilitic process prevailing in the heart-muscle. In the present state of our knowledge of this subject, more cannot be said. Further, I am not able to assert that the arythmia repeatedly mentioned in the foregoing is a characteristic sign of a syphilitic myocarditis, for such a conclusion would indeed be premature. All the symptoms of a pronounced process of the myocardium, such as we observe in practice, possess in reality, so far as their syphilitic nature is concerned, nothing characteristic; they are simply the symptoms of serious disturbances of circulation which necessarily ensue in alterations of the heart, in consequence of the incapacity of the myocardium. When the patient dies the autopsy reveals syphilitic lesions in the myocardium, but it is impossible to render clear and distinct the ominous clinical tableau in order to trace back the initial functional disturbances which would permit the diagnosis of a beginning myocarditis. On the other hand, if the patient recovers as a result of the specific treatment, we still forego the anatomical demonstration, and content ourselves with the simple conjecture of the presence of a syphilitic myocarditis.

The purpose of the foregoing report is simply to establish the connection prevailing between an ancient syphilis and recent cardiac disturbances, and the cure of the latter by specific treatment; it forms a clinico-therapeutic contribution to the history of cardiac spphilis. Supported by similar reports, diagnostic data should be acquired in the future which will be of great service to the physician in presenting an appropriate and seasonable treatment.—*Medical Age*, Nov. 25, 1892.

The Treatment of Myxœdema. — The *Lancet* reports a case of myxœdema now under treatment by the use of fresh thyroid glands as food. The patient is a woman aged forty, who for nearly three years has been under treatment for myxœdema. In every respect it is an extremely typical case: persistently subnormal temperature, general swelling of the integuments, dryness of skin, partial baldness, clumsiness of movement, slowness and thickness of speech, etc. The patient was admitted to the Royal Free Hospital, for the third term, in order to be treated by hypodermic injections of thyroid juice. In consequence of the difficulty experienced in obtaining the latter, Dr. Mackenzie was induced to try the effect of feeding the patient on fresh thyroid glands. The result has been a very striking improvement. The myxœdematous swelling has entirely disappeared, the temperature has become steadily normal, the skin moist and the speech natural. The patient says she feels as well as ever she did in her life. The change in her appearance is such that the existence of the disease would probably not suggest itself to any seeing her now for the first time. At first the thyroids of the two sheep were given every day finely minced. This was probably more than was advisable, because a remarkable accleration of the pulse ensued, which lasted until the thyroids were discontinued for a time. In view of the recent observations on the advantage of the thyroid juice when given in the form of injections this method, if responding favorably to further observations, would seem to constitute a distinct advance. It can easily be carried out and is free from risk, which cannot be said of the subcutaneous mode of treatment.

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THE EXPECTANT TREATMENT OF TYPHOID FEVER.

In a recent number of the *Medical Record* Dr. Arnot Spence, of New York, has an interesting paper on the expectant treatment of typhoid fever. This paper is founded on the results of treatment in 323 cases of typhoid treated in the St. Francis Hospital, of New York city, under the care of Dr. J. H. Ripley. Of the 323 cases, 47 died—a mortality of 14.23 per cent. From the 47 deaths 12 occurred within 48 hours after admission. If these are omitted, the death rate is reduced to 11.25. A specially interesting part of the report is that relating to the cause of death. Leaving out the twelve moribund, we have eleven cases either from hemorrhage or intestinal perforation, the remainder being due to the direct exhausting effects of the poison. Dr. Spence appears to be well satisfied with the results of treatment. In face of the results obtained by the Brand treatment, it is strange to think that any physician should be satisfied with having a no greater mortality than eleven per cent. Brand and his followers would claim that twenty, at least, of the deaths in the cases reported might have been prevented under the cold water treatment. It is claimed, and we believe with justice, that the cold water treatment practically eliminates deaths from broncho-pneumonia and those due to cardiac failure from direct action of the poison. Fully one-half of the deaths in Dr. Spence's tables were caused by the above conditions. It is more than probable that had a strict hydriatic treatment been carried out the rate of mortality would have been nearly a half less. In private practice the difficulties in carrying out the cold bath treatment are often very great, but in an hospital the only excuse for not following this method of treatment is a belief in the efficacy of other modes of dealing with the diseases. From the results obtained by the hydriatic treatment in Europe, and also on this side of the Atlantic, we believe that there is overwhelming proof that the death rate is much lower (probably from 4-6 per cent.) than from any other mode of treatment.

Further, convalescence is undoubtedly shortened—that long period of physical and mental debility, so common and so marked after severe cases of typhoid, is seldom or ever met in cases treated with cold water.

THE LETTER OR THE SPIRIT.

Article 1, section 3 of the "Code of Medical Ethics of the Canadian Medical Association, adopted by the Montreal Medico-Chirurgical Society," says: "It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or hand-bills, inviting the attention of individuals affected with particular diseases." The section goes on to particularize regarding the advertisements and to state the only possible exception to the rule that members of the medical profession must not appear in the public prints.

In a recent number of a Canadian medical publication we noticed, while looking over the advertisements, that, in addition to the usual notices of proprietary medicines, babies' foods, etc., no less than three Canadian medical men had announcements to the medical profession regarding their hospitals for the treatment of certain cases. The advertisements all read very much the same: "Dr. Specialist begs to announce to the medical profession that he has opened a private hospital for the treatment of such-and-such cases." By addressing the medical profession they steer clear of the letter of the law, which says that they must not address individuals affected with particular diseases. But do they observe the spirit of the law by thus addressing the individuals through their attending physicians? We think not, and, in order not to be misunderstood, we will state exactly wherein the offence lies. This part of the code is based on the fact that when a tradesman advertises he merely recommends the wares in which he deals, but a doctor of medicine has no wares to advertise; his stock-in-trade is his education and abilities; he has merely himself to offer, and to recommend himself openly savors strongly of conceit. The advertising of a sanitarium or inebriate asylum is not open to this objection, as they have something quite apart from medical treatment to offer. But the advertisements to which we refer are direct bids for patients, the treatment of whom does not require anything which may not be found in any well-equipped general or private hospital, of which there is an ample supply in all our large cities, without medical men going into the boarding house business and parading the fact in the medical journals as if they were proud of it. If the advertisement stated honestly what it meant it would read something after this fashion: "Dr. Specialist begs to announce to the medical profession that, as they are not capable of treating certain cases, they will do well to send them to him, and, for mutual accommodation, he will take them into his own house, or next door, and treat them in the most approved fashion." But the modesty of these gentlemen is too great to state things in this rude, straightforward way, and it also prevents them from mentioning the fact that they are all professors in various Canadian Universities. It is a great spectacle to the students and graduates of these Universities to see their professors, men to whom they look for both precept and example, thus openly violating the spirit of the law, while steering clear of the letter. It is plainly to be seen that we live in a commercial age, when the pen is mightier than the sword. We were formerly taught that good wine needs no bush, and we still believe it to be as true as it was in the days of Shakspeare. In a city a specialist who has the confidence of his fellows will soon be widely enough known without calling in the aid of that potent agent, "the little ad."

POPULAR IDEAS OF HYPNOTISM.

The public has very crude ideas on many subjects, but on none more so than hypnotism, or its predecessor, mesmerism. The novelist, in particular, is a firm believer in it, and well he may, for it is a good friend to him and helps him out of many otherwise impossible situations. We have come across a good many specimens of the romancer's art in which hypnotism plays its part, but in none is the rôle quite as absurd as in a story which appeared in a late issue of a daily paper. A young lady, wealthy, beautiful, and all the rest of it, suddenly falls while drinking a glass of wine at a party, and is picked up apparently lifeless. The account is very circumstantial. "The most scientific tests of the existence of life were made. A mirror was held before her nostrils, no sign of life. A string was wound tightly around her fingers and unwound, but the flesh did not change colour. Lastly, her flesh was punctured with a needle, and the hole remained open after the point was withdrawn. Yes, Emily was dead." The body is borne to the grave-yard, followed by a vast concourse of mourners, and is placed in the vaults. That night the *dead* lady moves in her coffin and, thanks to an electric alarm, is immediately rescued from her perilous position. A doctor is called, and being unable to restore her to consciousness, suspects hypnotism. An interested friend plays the part of detective and extorts a confession from a waiter in a restaurant to the effect that, tempted by a large bribe from the residuary legatee, he had hypnotised the lady by means of a glass of magnetised wine. She was to be left to die in the hypnotic state, but by a chapter of accidents the plot was frustrated. Of course the story ends by the marriage of the amateur detective and the heiress.

When daily papers, while setting up to be popular educators, publish stories like these, can we wonder that people resort to quack medicines, faith cures, etc., for all imaginable ailments, wasting both health and money.

—The "International Medical Annual" for 1893 is now in press and will be shortly issued. This is the eleventh year of its publication, and each year it has improved. It contains a report of all the new remedies and modes of treatment introduced during the year, selected by thirty.six department editors from the most recent American, British and Continental literature. It is a book of reference which every one should have to enable him to keep up with the times. It is published by E. B. Treat, New York.

Obituary.

ROBERT HUGH BERWICK, M.D., L.D.S.

With deep regret we chronicle the death of Dr. R. H. Berwick, which occurred on January 20th, 1893. He has left a gap in the ranks of the dental profession in Montreal which it will be difficult to fill, for though a young man he had already a large practice, and was greatly looked up to and respected. He was born at Farnham, Que., June 18th, 1866, and in 1888 received his Licentiate for the practice of Dental Surgery. Not content with this, he studied Medicine at McGill University, obtaining his degree in 1891. He then entered upon the practice of dentistry in this city, and by his ability and close attention soon obtained a large clientèle. This was the real cause of his death, for his intense application undermined his health and he fell a prey to that dread disease—tuberculosis. Dr. Berwick was one of the moving spirits in the new College of Dentistry, and was Professor of Dental Surgery. He also held the position of Dentist to the Montreal General Hospital. We desire to express our sympathy with his family, and to record our sense of loss in the cutting short of so bright and promising a life.

RESOLUTIONS OF CONDOLENCE.

At a meeting of the Medico-Chirurgical Society of Montreal held Jan. 20, 1893, it was moved by Dr. Mills, seconded by Dr. Proudfoot, and

"Resolved,—That this Society has heard with deep regret of the death of one of its members, Dr. Robt. Hugh Berwick, who, though a young member of the profession, was one of the most promising, and one who had gained the respect of all with whom he had come in contact during his brief but successful career.

"Resolved,—That a copy of this resolution be sent to the friends of the deceased, to the Dental Association of the Province of Quebec, and to the Press."

At a meeting of the dental students the following resolution was unanimously passed:

"That the faculty and students of the Dental College of the Province of Quebec sincerely deplore the great loss sustained by the dental profession, and especially by the College, in the death, after a long and painful illness, of their confrère and teacher, Dr. R. Hugh Berwick, Professor of Dental Surgery, and one of the most promising members of the profession."

At a meeting of the Montreal Clinical Society, held Jan. 28, 1893, it was unanimously

"Resolved,—That the members of this Society, realizing their loss in the death of Dr. Hugh Berwick, one of the members, desire to express their sympathy with his relatives and their sorrow for his untimely death. His honourable dealing and his devotion to his profession had gained the respect and admiration of all who knew him, and though but such a short time in practice, he had won a reputation for himself second to none in the city."

ALPHONSE BARNALIE LaROCQUE DE ROCHBRUNE, M.D.

Dr. LaRocque passed away on the 14th of January, in his sixty-sixth year. He was the son of the late Charles LaRocque de Roch-Brune, member of Parliament for Soulanges. After graduating from St. Mary's College, at Baltimore, he entered upon the study of Medicine at McGill University, and received his degree in 1847. He was the first Medical Health Officer of the city of Montreal, which position he resigned for private reasons after holding it for some years. He published several pamphlets on hygienic questions, and had always a keen interest in sanitary science. He did much to promote good feeling and sociability between the French and English-speaking inhabitants of Montreal, and, latterly, devoted much of his time to this worthy object.

Medical Items.

—Péan delivered his last lecture at the St. Louis Hospital on December 24, 1892, having reached the age at which the surgeons are compelled to retire.

—The spring term of the London Post-Graduate Course (4th year) began January 16th and continues to March 11th ; the summer term begins May 1st and continues to June 24th ; and the winter term, October 9th to December 2nd.

—Pasteur celebrated his seventieth birthday on the 27th of December last by a reception held in the amphitheatre of the Sorbonne. The President of the Republic, all the high government officials, the members of the Academy and the leading scientists were present to congratulate him. Addresses were presented from England, Russia, Germany, and many other countries.

A GYNÆCOLOGICAL ERROR.—Dr. George Ross, of Richmond, Va., reports the case of a woman who had suffered from unremitting, agonizing tenesmus, the result of a mass which she had carried in her bladder for seven years, and which proved on inspection to be a pledget of absorbent cotton once saturated with iodine, a truncated cone in shape, and thinly incrusted with phosphate of calcium. The patient believed that it had been introduced by her first physician, who, when attempting to apply some intra-uterine dressing, had mistaken the urethra for the cervical canal.

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Original Communications.

PROSTATECTOMY.

BY GEO. E. ARMSTRONG, M.D.,

Mr. President and Gentlemen:—In a lecture in the Leeds Post-Graduate Course, published in the London *Lancet* in February, 1888, and again in an address in the Section of Surgery at the Annual Meeting of the British Medical Association held in Leeds, August, 1889, Mr. A. F. McGill spoke of the treatment of retention of urine from prostatic enlargement, by making a supra-pubic opening into the bladder and through this opening draining the bladder and removing the projecting growth from the prostate gland. To facilitate discussion, Mr. McGill put his ideas before his *confrères* in the form of the following propositions:—

(1) That prostatic enlargements which give rise to urinary symptoms are intravesical, and not rectal.

(2) That retention is caused by a valve-like action of the intravesical prostate, the urethral orifice being closed more or less completely by the contraction of the bladder on its contents.

(3) That in many cases self-catheterism is the only treatment required.

(4) That when catheter treatment fails or is unavailable, more radical measures are necessary.

(5) That this treatment, to be effectual, should for a time thoroughly drain the bladder and permanently remove the cause of the obstruction.

(6) That these two indications are best fulfilled by a supra-pubic rather than a urethral or perineal operation.

In his address Mr. McGill says that he believes that Dr. Belfield, of Chicago, was the first to perform this operation. Dr. Belfield successfully removed a middle lobe of the prostate by the supra-pubic method, in October, 1886.

Mr. McGill's results were so satisfactory (eight out of the ten remaining well) that I decided to treat four cases that came into my wards in the Montreal General Hospital during the present summer by his method. I felt the more confidence in doing so because other surgeons at the Leeds meeting spoke so favourably of the results Mr. McGill had obtained, after seeing his cases and the tumours he had removed. Mr. Atkinson reported five cases. Four were alive and well, and the fifth died of pneumonia after recovering the power of micturition. Mr. Harrison and Mr. MacEwen were among those who thought favourably of the operation. I am sorry to say that I have not been equally successful, but my cases have been very instructive to me, and I hope that a brief account of them may be of interest to you.

My first case, M. C., aged 60, was admitted to the Montreal General Hospital on the 20th April, 1892 He complained of frequent and difficult micturition, also of pain over sacrum, and pain in front over bladder. These symptoms began two years ago. They have progressively increased, until now he urinates from six to ten times during the day and ten to fifteen times during the night. Respiratory, digestive and circulatory system normal. Had rheumatism three years ago. He has a double inguinal hernia. Upon examining the prostate per rectum, it is found very moderately enlarged, presenting a smooth, even surface. It is not tender, although pressure upon it produces a painful sensation at end of penis. A soft No. 8 rubber catheter passes easily. Residual urine, 4 oz. Urine pale amber colour. Neutral reaction, sp. gr. 1010. A small quantity of mucus and pus present. About 40 per cent., by bulk, of albumen. No sugar. Microscopically—Pus; granular casts · triple phosphate crystals; no blood corpuscles. On the 31st May, through a supra-pubic opening into the bladder, a small, hard nodule, constricted at its base, was found just at and below the commencement of the urethra. I cut across its base with a Volkman's spoon, and removed it from the bladder by means of a long-handled pair of hæmostatic forceps. For the first 12 hours urine was deeply coloured red. No blood after first 24 hours. Temperature and pulse normal throughout. On the 15th June, 15 days after the operation, he passed water naturally through the urethra. Wound completely closed on the 1st July, 31 days after operation. He then urinated four or five times during the day and two or three times during the night. His general condition was good, and there was no residual urine.

Case II.—J. H., aged 67. Was transferred from the Medical to the Surgical Ward on the 31st July, 1892. He complained of inability to pass urine, loss of appetite and shortness of breath. Has had difficulty in urinating for twenty years. For five months has been unable to pass any urine without the aid of the catheter. Is considerably emaciated. Temperature, 100°; pulse, 100; respiration, 28. Mild delirium at night. Urine of a grayish-white colour; acid; sp. gr., 1004; only a trace of intrinsic albumen; no sugar; a large quantity of pus and kidney cells (large, round cells, with a distinct large, round nucleus.) Urine contains 3 grs. urea to the ounce. Amount of urea passed in 24 hours, 168 grs. The pain and irritability of the bladder is so great that he asks to be catheterized 10 to 12 times in the 24 hours. By rectal examination the prostate is found somewhat enlarged. Arteries sclerosed; heart enlarged; lungs markedly emphysematous and hyper-resonant; tongue dry, covered with a brown fur and fissured transversely. The diagnosis was chron. nephritis with cystitis and prostatic obstruction to outflow of urine from the bladder. This patient was transferred from the Medical side as incurable, and the advisability of operating upon him in his then present condition was open to very serious question. In favour of an attempt to relieve him by operative treatment it was said that it was the only way to give him any chance of even a partial recovery; that the obstruction to the outflow of urine was a cause of the persistance of his cystitis and nephritis, if not the initial cause; that a supra-pubic opening into the bladder would provide free drainage to that organ. For these reasons the operation was performed on the 2nd August, and a hard, round, sessile tumour was removed from the middle lobe of the prostate. This was about the size of an English walnut. Another, the size of an almond, was removed from the left lobe. Efficient drainage was secured by the insertion of a large rubber tube. He never rallied after the operation. He complained of vesical and rectal tenesmus. Pulse was rapid and small. He became delirious, and died 30 hours after the operation. No autopsy was permitted.

CASE III.—W. R., aged 72. Admitted to Hospital 2rd July, 1892. Complained of pain over bladder and disability to pass his urine. He was relieved after much difficulty by passing a No. 2 silver catheter. The difficulty was increased by the presence of a number of false passages. He has passed no urine except through a catheter for four years and eight months. Urine alkaline, strongly ammonical and offensive. No kidney cells. By rectal examination, prostate was found very little, if any, enlarged. On the 4th August, through a supra-pubic incision, this large mass was eneucleated from the left lobe of the prostate. This man has, up to date, made an exceptionally good recovery. His urine is clear and odourless, and contains only a trace of pus. I feared that in this case the atony of the bladder was so great that the power of expelling urine would never be recovered, but in this I have been happily disappointed. He now urinates easily and comfortably. He can hold his water for five or six hours during the day, and only gets up two or three times during the night. His appetite is good, and his general condition excellent.

CASE IV.—J. G. S., aged 59. Admitted to Hospital 15th September, 1892, complaining of inability to pass water. About four years ago he first noticed increased frequency, and shortly afterwards he experienced difficulty in micturating. He says that for two years, during both night and day, he has urinated, on an average, every two hours. Two weeks ago, complete retention followed a severe wetting and chilling. Since then he has been unable to pass any water without the aid of a catheter. Temperature, heart and lungs normal. Arteries atheromatous and beady at wrists. Urine turbid, and contains muco-pus; acid; sp. gr., 1010; a small quantity of intrinsic albumen; no sugar. Microscopically—Triple phosphate crystals and pus cells. No renal epithelium or casts. A No. 8 elastic catheter introduced with difficulty. A No. 6 coudé passes easily. On examining prostate per rectum, it is found enlarged, but not markedly so. At the operation, on the 9th September, 1892, a well-defined projecting outgrowth from the prostate was found occupying a position below and on both sides of the vesical end of the urethra. It was eneucleated and removed. On the evening of the day of operation the temperature rose to 101° F., and the pulse to 120. Bloody discolouration of urine less than in previous cases. His condition 72 hours after operation was good; temperature normal, pulse improved, and urine flowing freely. Shortly afterwards, unfortunately, the urine became very scanty, pulse shabby, and, in spite of stimulation, he rapidly sank and died.

The experience gained in these cases enables me to confirm many of the propositions laid down by Mr. McGill. In all my cases, any information concerning the intravesical prostate derived from an examination of the rectal prostate was very meagre and misleading. In my four cases the rectal surface was smooth and not greatly increased, while from the vesical surface projected tumours of considerable size, quite sufficient, as proven clinically, to act as an obstruction to the outflow of urine. I also find that the supra-pubic entrance gives the operator perfect command over the seat of disease, and also sufficient drainage to the diseased bladder. Much more thorough treatment can be applied than is possible by any modification of Mercer's or Bottini's method. In only one case did I remove the growth by cutting. In that single case there existed a single nipple-like projection, having a constricted base, which was easily divided. This rounded, tumour-like projection came forward over the entrance to the urethra from the middle lobe, and it was easily seen how, on an attempt being made to urinate, it would drop into the urethral opening and prevent the exit of urine. In the other cases, the only cutting was the division of the mucous membrane over the prostate by means of blunt-pointed scissors, just sufficient to admit the end of the finger, and then the tumour was shelled out, the mucous membrane covering being torn sufficiently to permit its escape. Hemorrhage is troublesome, and I think often requires more efficient control than is given by hot water. In three cases I packed the bed from which the tumour was shelled out with sticky iodoform gauze. This was very satisfactory. The gauze was removed in 24 or 48 hours. The packing is in front of the orifices of the ureters, and thus did not stop the flow of urine into the bladder. Mr. Keys has lately employed a graduated pad, which he pulls down against the bleeding surface by means of a strand of silk brought out through the urethra and secured at the end of the penis.

Lastly, in regard to the anæsthetic, I have used ether; but if there is good ground for the oft-repeated assertion that ether may do damage to the kidneys in these old men, it would be well to substitute chloroform for ether. This may be done with more confidence and a greater degree of safety on account of the position in which the patient is placed for supra-pubic cystotomy.

The mortality attending this operation limits its performance to the few advanced cases unrelieved by any other method. On the other hand, delay which allows the patient to drift along until general deterioration and changes in the kidneys are so far advanced as to render operative treatment hazardouss, is unscientific and unsurgical. A man with obstructive disease of the prostate is sailing between Charybdis and Scylla. I don't see anything in the operation itself, performed on a man whose other organs are healthy, that should make it fatal; and I believe that increased knowledge of the pathology of prostatic disease and its sequlæ, with an improved *technique*, will enable us to afford relief to a greater number of this class of patients in the future than at present.

REPORT ON THREE PROSTATIC TUMOURS REMOVED BY DR. ARMSTRONG.

By PROFESSOR ADAMI, M.A., M.D.

These three tumours were sent to the Pathological Laboratory in bottles labelled respectively: 1. W. R., age 72; removed August 4th, 1892. 2. J. H., age 67; removed August 2nd, 1892. 3. — S.; removed September.

All the three are firm, nodular and lobulated masses, which on cutting present a fibrous, fasciculated appearance, with here and there minute cyst-like cavities in the fibroid material. No. 2 is the smallest, and forms but a single encapsuled mass, 3 cc. by 2.3 in its greatest diameters. No. 1 is the largest, and is composed of three separated lobules, the largest 6 ccm. by 3.5 ccm., and very irregular in shape, the other two each 3.5 by 2.5 ccm. No. 3 is also multiple, and of fair size, there being three large and one small lobules, joined together at one point by dense capsular fibrous tissue; the largest of these bodies is an oval mass, 5 cc. by 4 by 2.5 cc. On section, slight differences are to be made out macroscopically. No. 1 is densest in structure, most fibrous, and shows the least amount of cavitations. No. 2 is very dense, but presents small cysts filled with greyish granular material. No. 3 is softer, and shows numerous comparatively large cysts containing fluid.

MICROSCOPICAL EXAMINATION.

All three tumours are practically identical in structure. All present, in certain regions, typical acini of the prostatic gland substance cut across, showing the large columnar epithelial cells resting upon a nucleated layer of smaller cells with basement membrane; while the lumen of many of the glands contains a granular substance, probably portion of the albuminous and mucinous secretion precipitated by alcohol, together with a certain amount of cell *debris*. In other regions the acini are somewhat dilated and cystic, and here the epithelium is more cubical, while the small papillary outgrowths of the epithelium are not so well marked. But around the acini there is in all cases a very definite increase in the muscular or fibro-muscular stroma. All three specimens present in parts evidence of a fibroid degeneration of this muscular stroma, the plain, spindle-shaped, non-striated muscle fibres becoming separated and atrophied, and replaced by clearer, more translucent connective tissue. This condition is most advanced in Specimen 1 (the smallest and firmest of the tumours), although even in this it is not very pronounced, and there is no very great thickening of the fibrous coat of the arteries in the affected regions, such as is seen in advanced fibroid prostate. We have thus, in all three cases, to deal with a true hypertrophy of prostatic tissue, a hypertrophy affecting all the elements of the gland. The condition may be spoken of as a partial or localized hypertrophy of the prostate.

It is questionable whether such growths as these should be described as tumours, save in the most general sense of the term, for here we are dealing with neither a neoplastic nor truly a metaplastic growth. The specimens are not true myomata, such as occasionally are found in connection with the prostate, and to describe them as myoadenomata tends to veil the fact that they are nothing more nor less than hyperplastic prostatic tissue.

I am of opinion that the explanation of such localized overgrowths of the prostate is to be found primarily in the fact that the gland originates as a series of acini, each of which is surrounded by a coat of plain muscular tissue, while at a later date groups of these acini become surrounded by a common sheath of muscular or fibro-muscular tissue.

[As my friend W. Griffiths points out (*Jour. of Anat. and Phys.*, Vol. xxiv., 1890), the explanation of this peculiarly rich muscular coating is to be made out from the mode of action of the gland. The epithelial cells pour their alkaline and albuminous secretion into the relatively large lumen of the acini, and here, in the absence of any special reservoir, it is stored up, Immediately antecedent to the emission of the semen, this prostatic secretion has to be suddenly poured out into the urethra. This act is brought about by the strong contraction of the muscular covering of the individual acini, whereby the prostatic secretion is ejected.]

Thus the prostate is composed of numerous groups of highly

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specialized and partly independent acini, and this very mode of structure leads to the possibility of localized overgrowth of portions of the gland. In this connection it is interesting to study all these three specimens (but more especially Nos. 1 and 3), and to note how the tumours are made up of individual lobules well marked off, and in some instances easily separable from the neighbouring lobules, and these present frequently differences in the relative amount of glandular and muscular substance, and the condition of the same.

It would be interesting to determine whether these localized overgrowths are truly cut off and capsulated in lots, so that the secretion has no means of outlet into the urethra. This, so far, I have been unable to determine. The condition of the epithelium of the greater portion of the tumours—its typical columnar nature—is against complete encapsulement, for remembering how chronic are such growths, were the ducts obliterated we should expect to find the epithelium atrophied by prsesure and reduced to a cubical or flattened condition, as indeed is the case in the cystic areas. In these latter alone can one suppose that there has been obliteration of the ducts; but, as I have said, these latter form but a relatively small portion of the masses.

The importance of this fact lies in its bearing upon the nomenclature of the condition. For only if in these bodies we are dealing with independent masses of gland tissue, devoid of natural outlet for their secretion, can we rightly, I hold, speak of them as being adenomata? Otherwise we must regard them, as I have throughout this report, as examples of localized hypertrophy.

EMPYÆMA OF THE ANTRUM OF HIGHMORE.*

By H. S. Birkett, M.D.,
Junior Demonstrator of Anatomy, McGill University; Laryngologist to the Montreal Dispensary.

The frequency of occurrence of empyæma of the antrum, and that it is often regarded and treated as chronic nasal catarrh, is my excuse for presenting this subject for the consideration, and, I trust, to the interest, of the members of this Society.

Amongst the causes we have dental caries and alveolar periostitis; these are regarded by Heath, Semon, Lublinski, Fraenkel, Schmidt, Schech, Stoerk, Heryng and McBride as almost the only causes. Whereas, on the other hand, as supporters of the nasal origin of the disease we have Zuckerkandl, Zeim, Krause, Hartmann, Gougenheim and Baratoux.

That both of these sources are quite correct is supported by seven of my own recorded cases, where in five of them the cause lay in defective teeth and in two of them the trouble supervened upon an ordinary acute rhinitis, the teeth in the one case being perfectly sound, and in the other there were no teeth, the patient having worn a plate for years. So that we have undoubted proof that both these sources may be the origin of the trouble, and not that all cases are caused by dental caries or that all cases must be of nasal origin. Statistics of reported cases show that dental caries is, however, the most frequent cause. Amongst other causes may be mentioned: (*a*) Occlusion of the ostium maxillare from an hypertrophic rhinitis. (*b*) Polypi. (*c*) Syphilis. (*d*) Struma. (*e*) Traumatism. (*f*) Facial erysipelas (Schech.) (*g*) Division of the infraorbital nerve (Langenbeck.)

According to Zuckerkandl, the condition of the mucous membrane at the initial stage of the inflammation is a general hyperæmia, with small ecchymotic spots scattered here and there. This is followed by a serous exudation, which subsequently degenerates and becomes purulent.

Of all the subjective symptoms, we find that a discharge from one nostril is the one most frequently complained of by the patient, or, as it is most commonly called, catarrh. Next in order is the fetid smell and disagreeable taste in the mouth. In this respect empyæma of the antrum differs from atrophic rhinitis associated with ozœna, in that in the former (empyæma of the antrum) the sense of smell remains intact and the patient himself alone is conscious of the odour, whereas in atrophic rhinitis the olfactory sense is so dulled or absent that the patient becomes objectionable only to those who surround him. The discharge is large in quantity, so that several handkerchiefs are soiled during the day. The amount of discharge varies from one time of the day to another—generally more the first thing in the morning; it also varies with the position of the patient—when lying down the antrum becomes emptied to a certain extent, and when arising what has escaped flows from the nostril. The discharge is of a canary-yellow colour, purulent in character, and varies in consistency. Usually the discharge is unilateral, although there are a few recorded cases of bilateral empyæma.

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* Read before the Medico-Chirurgical Society of Montreal.

Pain, as a rule, accompanies empyæma of the antrum, and varies in intensity and locality. It may be so slight as not to be complained of, and elicited only upon questioning the patient—this is especially the case in the chronic form; or it may be so violent as to be the only symptom complained of, as is usually the case in the acute forms of inflammation. The pain is located over the malar or nasal bones or in the supra-orbital regions, partaking of a neuralgic character, coming on gradually, increasing until an acme is reached, and suddenly passing off. This is explained by the gradual accumulation of the pus within the antrum until it finds, suddenly, an exit. Occasionally, obstruction to the nasal respiration on one side is complained of, as in the case presented.

"In a certain number of these cases, the beginning of these symptoms can be traced to a severe attack of toothache, followed by swelling of the face, and when this history is present the diagnosis is much facilitated."—*McBride.*

The general health may be somewhat below par, the acute cases more especially so, which may be ushered in by chills, followed by slight febrile disturbance.

Proceeding next to the objective symptoms, it is well to first spray a small quantity of a 5 per cent. solution of cocaine into the affected nostril, because in these cases of empyæma, when the discharge is of an irritating nature, there is produced either an acute or chronic inflammation of the mucous membrane, attended with moderate swelling, which obstructs one's view of the middle meatus. This swelling having been reduced, our attention is now directed to the middle meatus. Here one observes a quantity of lemon-yellow coloured discharge covering the anterior extremity of the middle turbinated bone, or, if it be of sufficient quantity, may be noticed covering the inferior turbinated bone. If with a probe armed with a little cotton wool the secretion is wiped away, it will be seen that the secretion is coming from between the middle turbinated bone and the outer wall of the middle meatus, and after thoroughly wiping away all the secretion, it will be noticed that in a few minutes there is a large quantity of secretion re-collected. This accumulation may be made more rapid in some cases by turning the patient's head away from the affected side, thus facilitating the exit of the secretion. This rapid accumulation serves to distinguish it from an ordinary purulent rhinitis; and the situation of the discharge, between the middle turbinated bone and the outer wall of the meatus, makes the diagnosis more sure than if seen coming from the inner surface of and above the middle turbinated bone, for then such cases have an associated affection of the ethmoidal or sphenoidal sinuses. The condition of the middle turbinated bone and its surroundings are next to be noticed. As a rule, the mucous membrane covering the anterior extremity has undergone a hypertrophic or myxomatous change, or there may be actual osteoid hypertrophy of the middle turbinated bone. On the outer surface of the middle turbinated bone, and about the region of the ostium maxillare, there may be a small number of very vascular polypi aggregated together, and upon their removal the escape of pus from within the antrum is noticed to be more rapid.

Corroborative evidence is furnished by the following measures:

(*a*) Percussion over the superior maxillary bone on the affected side may elicit pain, and in some cases where actual absorption of bone tissue has taken place crackling may be felt.

(*b*) Succusion, as suggested by Frontis, is only of value where the pus is rather fluid and the antrum contains air.

(*c*) Redness of the gums on the affected side has been observed by McBride. This was noticeable in two of my cases.

(*d*) Examination of the mouth may prove the existence of defective and sensitive teeth, and in some cases—it occurred in two of mine—a small sinus is observed either in the centre of or above the alveolar ridge, and from the mouth of this pus may be seen to exude. A probe passed into the sinus will detect carious bone and sometimes enter the antrum.

Actual opening on the side of the face, close to the nasal bone, and communicating directly with the antrum, I have seen in two cases. This condition, so far as I have been able to ascertain from the literature on the subject, is not mentioned even in the so-called classic works on rhinology. This condition of itself would be positive evidence of the previously existing empyæma.

(*e*) *Exploratory Puncture.*—This may be carried out by thrusting a strong trocar through the outer wall of the maxillary sinus about the centre of the canine fossa, or by means of a suitably curved one an entrance may be effected through its inner wall just behind the anterior extremity of the inferior turbinated bone. Aspiration of the antrum through the ostium maxillare, as suggested by Hartmann, is a difficult and at the same time an uncertain method.

These last-named measures should only be used if there were any doubt as to the existence of an empyæma, and where the teeth on the affected side were sound; but should there be defective teeth, then the first upper molar should be selected, and through its posterior socket a drill be made to penetrate into the antrum.

Finally, trans-illumination, as first suggested by the late Voltilini and Cossolino, may prove a further means of corroborative evidence. This method is carried out as follows:—The room in which the patient is must be absolutely dark.

Place a small electric lamp in the mouth, and the lips are to be firmly closed over it. It is now to be observed that in case the maxillary sinus of either side be filled with purulent fluid or solid tumour the rays of light are prevented from passing through, and that that side of the face is totally dark, whilst on the non-affected side a bright glow is seen on the cheek just below the infra-orbital margin. The translucency may be modified by certain conditions. If the walls of the sinus be denser than usual, or the mucous membrane be thicker, or the cavity of the sinus be small, then the light area may not be so bright as in conditions entirely opposite. In fair persons this light area is more distinct than in dark complexioned people. If the sinus contains a cyst, the bright area is especially distinct.

The course which an empyæma may take varies: (1) If only moderate in degree it may resolve, the pus undergoing absorption—an exceptional issue. (2) Or it may end in a chronic discharge from the nose. (3) Or it may break through on to the face and leave a discharging sinus in which necrosed bone may be detected. This condition was met with in two of my cases.

Organs which may indirectly be affected by empyæma of the antrum are the larynx and pharynx, exciting reflex cough, nausea and retching. The orbit has in a few cases been involved, producing, according to Schech, protrusion of the eyeball, with atrophy of the optic nerve, and, according to Ziem, narrowing of the field of vision and glaucoma. In a case related to me by Dr. Buller, keratitis was produced, which got better upon emptying the antrum of the pus contained in it.

Empyæma of the antrum may be confounded with—(1) Foreign bodies, including rhinoliths. From this it is differentiated by the fact that foreign bodies, such as peas, beans, buttons, etc., are found chiefly in children, whereas empyæma in the child is rare. Regarding rhinoliths, on the other hand, they are very rare in children and comparatively common in adults. Then the objective symptom as ascertained by the probe will reveal the presence of a foreign body. (2) Purulent rhinitis. This generally occurs in children of a strumous or syphilitic diathesis, the corroborative evidence of which is to be found in the general constitution. (3) Syphilis, acquired. Here one finds ulceration chiefly of the septum, and the presence of carious bone being detected by the probe. Then the history of early infection.

Treatment.—The main objects in treatment are (1) a free exit for the pus, and (2) the destruction of the pyogenic membrane in the chronic cases. The means of accomplishing the first object are four. (1) That, advocated by Hartmann and Krause, of cleansing the cavity of its abnormal secretion by syringing through the ostium maxillare. This is accomplished by the use of a suitably curved canula, as devised by Hartmann himself, one of which I here show you.

Other advocates of this treatment further advise a partial or complete removal of the middle turbinated bone. Comment on this method is hardly necessary, as it commends itself to all as unsound in surgical principles, namely, draining from the highest level of a collection of pus. The associated removal of the middle turbinated bone, either partially or in its entirety, is a painful and unnecessary procedure.

Mikulicz's method of opening through the inferior meatus is an advance of the former method; but in many antra the floor is below the level of the floor of the inferior meatus, and thus we do not get drainage from the most dependent place. The same argument may be made against the opening of the antrum through the canine fossa, as advocated by Heath and others.

The more generally accepted method, and the one followed out in my own cases, is as follows:—Having decided which tooth is most likely to be the cause, presuming that dental caries or alveolar periostitis has been the exciting cause, this one is to be extracted—by preference the first molar. Then the drill should be inserted into the posterior socket and made to penetrate the antrum. To be sure an entrance has been effected, a dental excavator should be passed into the opening and rotated. The opening thus made is to be enlarged by means of a reamer. Should, however, there be a fistulous opening in the gum, this spot should be selected. If there are no teeth, then an incision through the gum down to the alveolus must precede the use of the drill. In case the teeth be sound, then drilling between two of them is advisable, or let the antrum be opened in the canine fossa. Upon withdrawal of the drill, one must not be disappointed if pus do not flow out immediately, for it may not do so for two reasons: (1) The pus may be too thick and the tearing of the mucous membrane by the drill may form a valve to the opening, or (2) as shown by Giraldès, the antrum may be divided by septa of bone, and consequently a first attempt at reaching the pus might be ineffectual.

Having reached the cavity, it is next to be syringed out through the newly made opening. This may conveniently be done by Hartmann's canula or an ordinary Eustachian catheter. The solution to be used is preferably bi-chloride (1:5000), which when injected into the antrum will run out through the nostril.

The next step is the adjustment of a drainage tube, and upon the careful adjustment of the tube the successful issue of the case depends. The distance from the surface of the gum to just within the cavity of the antrum is to be carefully measured; this is well done by means of the dental excavator being passed just so far as to allow its point to be rotated within the antrum. This being ascertained, the tube should be about $\frac{1}{8}$ in. longer, so that as readily as the pus collects it may be carried off. I regard this of some practical importance, for I have seen cases where the tube has been so long as even to touch the roof of the orbit, and although the cavity was flushed out, yet no drainage took place, and the pathological process continued for months—in one case for two years, and it was only on greatly shortening the tube the case got well. As to kind of drainage tube, I use the canula of a moderate sized trocar cut down to the required length. Through the shield two small openings are made, and by means of wire passed through these openings the tube is held in position by being fastened to the neighbouring teeth.

The treatment now consists in having the antrum washed out three times daily with an antiseptic solution, preferably Listerine (ʒi–℥i), as with any stronger antiseptic, such as bi chloride or carbolic acid, toxic symptoms might be induced. Every other day in the chronic cases of empyæma, when we have to deal with a pyogenic membrane, a small quantity of hydrogen peroxide may be injected into the antrum after having just cleansed it with the Listerine solution. This treatment must be continued as long as the solution coming through the nostril remains coloured with purulent matter. When this ceases the tube may be removed, and if after its removal for several days the antrum remains clear, it may be left out permanently and the opening allowed to close. In some of the chronic cases a small curette may be introduced through the external opening and the cavity of the antrum scraped. Insufflations of iodol or iodoform or the packing of the cavity with iodoform gauze has been carried out successfully by Krause and others.

In cases where the pus has made an opening on the face, the antrum should be treated as just described, and the sinus opened, scraped and any loose pieces of bone removed, and the wound kept open by means of iodoform gauze and allowed to heal from below. Any co-existing nasal trouble, such as hypertrophy or myxomatous degeneration of the mucous membrane, or polypi, should receive treatment at the same time.

CASE I.—*Associated with Polypoidal condition of the Mucous Membrane of the Left Middle Turbinated Bone.*—Mr. A. C. C., age 22, kindly referred to me by Dr. G. A. Brown, was seen by me three years ago, complaining then of a constant fetid discharge from the left nostril, which had existed for several years. There was marked pain on the left side of face and forehead, described by the patient as neuralgia. The discharge from the nostril was very profuse, several handkerchiefs being soiled during the day. The discharge was of a dark yellow colour, of the consistency of cream and purulent in nature. A dry irritating cough, with decided huskiness of voice, was complained of.

Examination of the nose showed a marked polypoidal condition of the mucous membrane of the left middle turbinated bone, with considerable thickness of the bone itself. These parts, as well as the inferior turbinated bone, were bathed in purulent secretion, and after carefully wiping it away the secretion could be seen issuing from between the middle turbinated bone and the outer wall of the middle meatus. This secretion was found also lying on the upper surface of the soft palate, in the posterior wall of the pharynx and in the inter-arytenoidean space. The vocal cords were much thickened and congested Pressure over antrum elicited no tenderness—no dental caries present.

After having removed the polypoidal thickening, the first upper molar on the left side was extracted and an opening effected into the antrum through the posterior socket. A small spiral wire drainage tube was inserted and the cavity syringed out with hydrogen-peroxide three times a week, and with Listerine three times daily. Three months afterwards the secretion of pus had greatly diminished and the voice had become stronger. The ultimate issue of this case I have not learned, as the patient left the city suddenly and for parts unknown.

CASE II.—*Empyœma due to Acute Rhinitis.*—Miss C. G. came to me in August, 1890, complaining of a severe neuralgic pain on the left side of face, with a discharge from nostril on the same side, which had existed for the past ten days, having been preceded by a severe cold in the head. The senses of smell and taste were markedly obtunded for six days during the attack of acute cold. Examination of the left nostril revealed pus coming from space between the middle turbinated bone and the outer wall of the middle meatus. The mucous membrane of both nostrils was moderately swollen and hyperæmic. Left side of the face noticeably swollen and decidedly tender in the canine fossa. No dental caries was present, as the patient had had her teeth extracted several years ago and wears an artificial set. An incision down to the alveolar edge was made, and about the situation of the first upper molar the drill was entered, opening the antrum and allowing of the escape of a teaspoonful of horribly fetid pus. The cavity was irrigated with solution of bi-chloride (1:5000) and subsequently a solution of Listerine used. Four weeks from the date of opening all discharge had ceased. A month later, when seen, the opening had firmly closed and the patient was perfectly well.

CASE III.—*Cause—Dental Caries.*—Mr. F. F. E, age 36, kindly referred to me by Dr. England, complained of a fetid discharge from right nostril, which came on four months ago, being preceded by severe pain in right side of face and head, relieved entirely when flow of pus set in. Examination of the nose showed purulent secretion coming away from the region of the anterior extremity of the right middle turbinated bone. Position of head did not materially accelerate flow of pus. The mucous membrane of the middle turbinated bone was considerably hypertrophied and hyperæmic. When pain in face set in had first upper molar extracted, thinking it was the cause of the face ache. The antrum was drilled through the space where the tooth had been extracted, giving exit to a small quantity of pus.

The subsequent treatment consisted in the syringing out of the antrum with solution of creolin (1:500), the tube being removed one month later, as all symptoms of empyæma had disappeared, and the patient has remained well ever since.

CASE IV.—*Empyœma Affecting both Antra. Dental Caries as Cause.*—Miss B. consulted me a year ago in reference to a disagreeable discharge from right nostril which had existed for one week. The discharge was preceded by a most severe pain in the right side of the face, attended with swelling of the same side of the face and beneath the right eye. Relief to the pain was followed two days later by a sudden discharge of fetid matter from the right nostril. The swelling of face and beneath right eye also disappeared. The mucous membrane of the right nostril was much swollen and hyperæmic; but under the influence of a 5 p. c. sol. cocaine, the swelling was so reduced as to bring the middle meatus into view, and in the region of the outer surface of the anterior extremity of the right middle turbinated bone a quantity of purulent secretion was collected, which soon re-collected after removal.

Marked redness of the gums of the right side was observed, and tenderness elicited upon pressure over the superior maxilla.

Under ether, all the defective teeth on the right side of the superior maxilla were extracted, and the antrum opened by means of a drill passed in through the posterior socket of the second molar. The antrum was then emptied of its purulent contents by syringing with a solution of bi-chloride (1:5000.) The treatment, as carried out by the patient herself, consisted in syringing out this cavity three times a day with a solution of Listerine (ʒi—℥i) and the occasional use of hydrogen-peroxide. Two months from date of operation the discharge had ceased and tube removed. Two months later still, patient wrote complaining of the *left* side of face aching, and of a yellowish discharge from *left* nostril. Examination of this nostril shows a moderate amount of purulent secretion coming from the space between the left middle turbinated bone and the outer wall of middle meatus; this secretion does not readily re-collect after once removing it, and the re-collection is not increased by altering the position of the head. There is no tenderness in canine fossa and no redness of gums. Several defective teeth in the upper jaw left side. These were extracted and the antrum drilled into through the posterior root of the second bicuspid. Drainage tube left in opening and patient directed to syringe out antrum three times daily. Three weeks afterwards the solution syringed into antrum came out perfectly clear, and continued to do so for several days; the tube was then left out and opening allowed to close. Three months later the patient was still perfectly well.

CASE V.—*Empyœma Associated with Necrosis of the Superior Maxilla.*—Mrs. W. kindly referred to me by Dr. J. H. Bell.

Four years ago this patient suffered from severe pain in the left side of face, accompanied by considerable swelling; this was followed by a discharge of matter into the mouth from the neighborhood of a defective tooth in the left side of the upper jaw. This tooth (first molar) was extracted, and since then a purulent discharge has continually come from the site of tooth, as well as from the left nostril. Two years later the face again swelled up and broke out on the left side of face close to the nasal bone and just below the left eye. This has continued to discharge ever since. About half an inch to the left of the middle line of the nose, and half an inch below the infraorbital margin is a sinus whose opening is surrounded by granulation tissue. A probe passed into sinus has a direction downwards and outwards, touching carious bone. Opposite the situation of the left upper first molar is another sinus extending upwards for one-eighth of an inch and coming in contact with carious bone. In the left nostril, just behind the anterior extremity of the inferior turbinated bone, is a small button of granulation tissue, and a probe bent at right angles passes outward for one-quarter of an inch and comes upon necrosed bone. Springing from the outer side of the left middle turbinated bone is a polypus of moderate size reaching to just below the level of the edge of the middle turbinated bone. A moderate amount of purulent secretion is seen covering the polypus and adjacent structures.

This polypus was first thoroughly removed and then the antrum wus drilled into through the small sinus in the alveolar process. As soon as opened, a probe could be passed readily from the opening in the alveolar process out through the opening on the face. A drainage tube was inserted and syringing with a solution of bi chloride (1:5000) used. Later on Listerine was used.

The amount of discharge gradually lessened, and in order to hasten the progress of the case, Dr. James Bell opened up thoroughly the sinus on the face and removed, by means of a scoop, all carious bone. The cavity was packed with iodoform gauze and dressed from time to time. At the end of a month all had healed perfectly and patient had quite recovered.

CASE VI.—*Empyœma due to Dental Caries; Method of Examination.*—Mrs. McD., age 32, complained of a cough which had troubled her for past year; generally worse after having lain down for a short while, and unattended with any expectoration. For the past month has noticed a discharge from the right nostril which had an odour so disagreeable as to nauseate her. During this time suffered a good deal from neuralgic pain over the right eye and about the right side of nose; this pain is always increased by a cold in the head.

Careful rhinoscopic examination anteriorly reveals no purulent secretion about the right middle turbinate, but posteriorly a considerable quantity is seen lodged on the floor of the inferior meatus and extending upwards to the posterior extremity of the middle turbinated bone on the same side. Trans-illumination shows dark area under right eye.

The right upper jaw reveals a small fistula opposite the second bicuspid, at the bottom of which carious bone is detected; root of tooth is still present; the gum on this side is decidedly hyperæmic; no tenderness on pressure.

Under ether, this root was extracted and entrance into antrum effected through original site of first molar. Syringing of antrum through this opening brought out a large amount of greenish coloured, thick, very fetid secretion.

Subsequent treatment was such as has been followed out in the foregoing cases, and the result has been the complete cessation of the cough and arrest of the discharge.

Case VII.—*Empyœma following Acute Rhinitis.*—Miss H., five days before date of consultation, suffered from a severe cold in head, followed two days later by left side of face becoming swollen and painful, the pain beginning at the left side of the nose and extending along the eye-brow of the same side; the eye on the affected side was inflamed and painful. The symptoms increased for two days, when on awakening in the morning found a bloody and fetid discharge coming from left nostril, and the intense pain and sense of fulness on that side of the face had entirely disappeared.

Examination of the nose showed a large collection of yellowish coloured secretion, tinged with blood, just at the anterior extremity of the left middle turbinated bone. There are no teeth they having been extracted some years ago. The mucous membrane on the alveolar process is markedly hyperæmic. Trans-illumination shows a dark area beneath left orbit.

The antrum was opened in the usual way and a moderate amount of very fetid discharge syringed out. Although it is only two weeks since the operation the discharge has ceased and the symptoms have all disappeared.

ADMINISTRATION OF CHLOROFORM AND THE DANGERS INCIDENT THERETO.*

By J. D. Balfour, M.D., London, Ont.

The object of such a discussion at this time is, as I apprehend, to keep men's minds alive to the dangers incident to the use of chloroform, and to see if by comparing experiences we may be able to assist each other in avoiding these dangers.

The safe administration of chloroform is to be determined by our knowledge of its action. This statement would imply on my part an attempt to enter into a scientific discussion of the physiological action of chloroform, but such is not my intention.

Having administered chloroform for nearly all the operations performed in the London General Hospital for the last six years, also for many special cases outside the hospital, as well as the use I have made of it in obstetric practice, I wish simply to give my experience with this anæsthetic from a clinical standpoint. What I have to say on this subject, therefore, will be arranged under two headings.

1. The dangers of chloroform, their causes and treatment.
2. How to avoid these dangers, *i.e.*, the best mode of administering chloroform.

For the sake of convenience we will speak of three stages in the administration of chloroform: (1) Excitement; (2) Complete anæsthesia or unconsciousness, and (3) Profound narcosis.

Dangers from the Lungs.—The first stage, or that of excitement, is the most dangerous, as more than half of the deaths from chloroform occur during this period before the operation is begun. One source of danger here is the liability of asphyxia from direct obstruction to the entrance of air into the lungs.

This condition may be caused by stertor, falling back of the tongue and depression of the epiglottis, spasm of the glottis, nasal obstruction, and also by the administrator in not allowing sufficient air to enter to maintain the respiratory movement.

By stertor here is not meant the ordinary palatine stertor of snoring, but a stertor caused by the vibration of the epiglottidean folds which approximate so closely sometimes as to endanger life. This condition is recognized by the peculiar noise, the lividity of the patient's face, and from the fact that although the respiratory movements may continue no air is entering the lungs, as may be ascertained by placing the hand over the patient's mouth. I mention this cause of obstruction because I once saw it.

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* Read at the meeting of the Canadian Medical Association, at Ottawa, Sept., 1892.

Falling back of the tongue and depression of the epiglottis is another form of direct obstruction to the entrance of air, one, however, easily recognized and somewhat frequent, occurring several times in my experience. Both these forms of obstruction are removed by turning the patient on the side and drawing forward the tongue, this operation relieving the stertor in the larynx and raising the tongue and epiglottis. Spasm of the glottis is another form of direct obstruction; here the patient's face becomes livid, convulsive movements ensue, the respiratory movements continue, but no air enters the lungs. When this condition is present the chloroform must be stopped at once, and if breathing does not take place directly, artificial respiration should be kept up until the patient is restored. If sufficient air be not allowed to enter the lungs with the chloroform, the chloroform itself becomes a direct obstructing agent and causes asphyxia by excluding the air.

The treatment for this condition is obvious, and it cannot occur except through gross carelessness or ignorance on the part of the administrator.

Of nasal obstruction I have no experience.

Dangers from the Heart in the First Stage.—By far the most important source of danger in this stage is the risk of an early, sudden and sometimes fatal syncope. Authorities differ widely as to its cause; some say that it is a reflex inhibitory action of the heart through the vagus, others that it is the direct action of the chloroform on the heart itself, others that it is caused indirectly by the heart sending impressions along the depressor nerve to the vago-constrictor centre, inhibiting its action; others that the excitement and shock of receiving the chloroform inhibits the vago-constrictor centre, while different theories are advanced by others.

It seems sometimes to be induced by the act of vomiting, and once I thought it due to the patient suddenly assuming an upright position. Whatever the cause, this much is certain, that the first effect of chloroform is to stimulate the higher nerve centres in the medulla, so that their functions are disturbed; they are intoxicated, so to speak, and while they are in this condition syncope is liable to occur.

Its advent is sudden, the face becomes pale, a few short shallow breaths, and the heart stops beating, although the respiratory movements may continue. It is, however, a comfort to know that syncope at this stage is not nearly so dangerous as when it occurs later on during returning consciousness.

If the patient's head be lowered, and artificial respiration at once resorted to, it will generally, some say always, restore the patient.

Nitrite of amyl is of service here, especially if the syncope be caused by a reflex inhibition of the heart.

As stated before, there is great danger as long as the stage of excitement lasts. Now, the stage of excitement will not cease until the reflexes are abolished, and as chloroform is given for the express purpose of paralysing these centres, clearly the safest method is to keep up a sufficient and continuous administration from the first until this effect is produced.

It is a dangerous procedure to remit chloroform in this stage. I would like to emphasize the statement that I hold the best way to administer chloroform in the first stage, is to commence cautiously, and then to continue with a hand neither timid nor reckless.

I have now mentioned some of the more important risks incurred during the first stage of the administration of chloroform.

We will now enter the second stage, that of complete anæsthesia or unconsciousness.

By this time perception and sensation are annulled, the patient sees nothing, hears nothing, and feels no pain, muscular tone is lost, and the voluntary muscles are paralysed, the limbs are limp, the pupil contracted and the conjunctiva insensible to touch, the face a little pale usually, the pulse probably a little slower than normal, but regular, the respiration slow and somewhat heavy, the patient is completely anæsthetised.

If the chloroform is now continued without abatement dangerous symptoms will soon be seen. The pupil becomes suddenly fully dilated and fixed, the globes prominent, the respiratory movements, weak, irregular and sighing, the heart beats irregular and feeble, the face very pale; the commencement of these symptoms marks the beginning of the third stage, or that of profound narcosis.

I stated that the stage of excitement was the most dangerous period in the administration of chloroform. But almost equally dangerous, if unfortunately it becomes necessary to enter it, and sometimes it is necessary, is the stage of profound narcosis.

Now, between these two danger points is the comparative safety ground in which the surgeon must work, the stage of unconsciousness.

The amount of chloroform it takes to complete the second stage varies widely in different individuals, and a due appreciation of this fact will enable the administrator to proceed with comfort. For instance, if he finds the patient, after he is completely anæsthetised, can stand the continuous application of the chloroform, as in the first stage, without developing any dangerous signs, for a limited time, he can fairly make up his mind that he has a good subject to deal with.

It is clear, therefore, that the object of the administrator during the operation should be to avoid these two danger points; on the one hand not to allow the patient to so far recover as to allow the reflexes to operate, and on the other to be careful not to endanger the centres of respiration and circulation by too much chloroform.

But this is not always easily accomplished. I have given chloroform to patients, one in particular, in which there seemed to be little or no second stage of comparative safety; no sooner would the reflexes be abolished and the operator ready to proceed than alarming symptoms would show themselves. These are dangerous cases.

The best way, however, to guard against the first danger is to frequently examine the eye, and any movement the patient may make, for symptoms of returning consciousness and reflex action.

If the pupil be contracted and the conjunctive insensible to touch there is generally no danger from this source. But remember, no single sign can be trusted. To prevent danger from the second source, the administrator should watch particularly the respiratory movements and observe the countenance, and I have no fault to find with those who look after the pulse too. Should respiration become weak, irregular or sighing, the countenance pallid, or the pulse irregular, rapid and feeble, the chloroform must be stopped at once. If during a prolonged operation signs of heart failure develop, anticipate danger by stopping the chloroform and completing the operation with ether.

Third Stage.—Notwithstanding all precautions, death sometimes occurs in this stage, and is then the result of direct paralysis of the centres of respiration and circulation, or both, by the chloroform. If from heart failure the face becomes very pale, the breathing weak, short and catching, the heart ceases to beat and the patient is in a state of syncope, and all this sometimes with little or no warning, what is to be done? Stop the chloroform, lower the patient's head immediately, and if the heart does not at once resume its functions, commence artificial respiration. Hypodermic injections of digitaline and strychnia is the best accessory treatment.

If asphyxia threatens, the face becomes livid, the respiratory movements irregular and spasmodic, convulsive movements are seen and the breathing stops, while the heart continues to beat flutteringly. Here again chloroform must be stopped and artificial respiration immediately resorted to, care being taken to keep the patient's head low. Digitalis and strychnia are also very important adjuncts in completing the patient's recovery. I have seen a touch of a battery excite breathing after artificial respiration had been kept up for some seconds.

In any case of imminent danger, whether the heart or lungs be at fault, the patient's head being immediately lowered, artificial respiration should at once be commenced by the best man present, and on no account should he allow anything to interfere with his efforts until the emergency is passed. Additional aids, such as those already mentioned, should be practised by a second party. It seems to me however, that the majority of deaths that occur in this stage are attributable to the combined effects of the chloroform on both the circulatory and respiratory centres, and not to either one separately, because the depressed condition of the circulation or respiration caused by the chloroform each aggravate the other on account of their mutual dependence upon each other.

Suppose the operation over. There is still a dangerous period of returning consciousness, during which the reflex centres are recovering their normal condition, and the connection between the heart and the cardiac centre is being re-established. If death occurs now it will be from syncope, and is most likely caused by impressions sent by the now distressed heart along the depressor filament of the vagus to the vaso-constrictor centre inhibiting its action and causing it to release its hold on all the vascular areas.

This is a much more dangerous form of syncope than that which occurs in the first stage, because by this time the heart is weakened by the action of the chloroform and its own intrinsic ganglia, and when it does occur death is almost certain to ensue.

The methods for the treatment of syncope before indicated must, of course, be assiduously employed.

Before leaving the subject of danger I wish to refer to the classes of cases in which death ensues in one, two, three or more days after the operation.

I have seen two cases, one in particular where the patient appeared to be in good condition after the operation and everything indicated ultimate success, but the pulse became gradually weaker, more irregular and rapid, in spite of all treatment, until death occurred at the end of 36 hours. Is death to be charged to chloroform? Yes.

In one case in which a post-mortem was held it was undoubtedly caused by the chloroform. The case occurred in the practice of Dr. Eccles, London. Mrs. C., aged 48, abdominal section for ovarian tumor, a dermoid cyst. She had no alarming symptoms until 12 hours after the operation, when she began to sink, apparently from heart failure, dying in 36 hours. Dr. McCallum, of London, made a post-mortem, and these are the notes: The wound and abdominal contents normal to the eye, peritoneum smooth and glistening, right side of heart contained an ante-mortem clot of one ounce, while the left side was empty, valves normal, all the chambers dilated, myocardium was pale and easily torn. The coronary arteries presented well marked nodular arteritis and the left was almost obliterated an inch from its origin. On throwing a section of the ventricular wall into water a coat of oil immediately floated on the surface. The microscope showed well marked fatty degeneration of the heart muscle. Is not this a case of a weak heart receiving the fatal strain from chloroform ?

One very important quality of the heart is its elasticity, by means of which it is enabled to dilate when occasion requires and again resume its normal size when the emergency is passed. Now, a constant result of the administration of chloroform is dilatation of the heart, and it is clear that if its elasticity be impaired by any cause whatever, as by fatty degeneration, it may not be able to recover itself after the dilatation caused by the chloroform, and is consequently unable to sustain life long, although the patient may live through the operation.

If this be true, it follows therefore that a fatty heart or a weak dilated one is a contra-indication to the use of chloroform; the Hydrabad Commission to the contrary. But here a great clinical difficulty meets us, that is the almost impossibility of recognizing this condition of the heart beforehand.

I now come to the second heading, "Administration of Chloroform."

Preparation of the Patient.—It is a well-known fact that chloroform is best administered on an empty stomach. No solid food should therefore be allowed for five or six hours before the operation, but a cup of soup or broth may be given with advantage two or three hours before. If a weak heart be suspected, strychnia and digitalis should be given for a couple of days before the operation. This treatment was first suggested by Professor Wood, of Philadelphia. The strychnia antidotes the chloroform and the digitalis tones up the heart. Other eminent authorities recommend alcohol before administering chloroform. Alcohol is not unlike chloroform in its physiological action, and the use of it is held to lessen the quantity of chloroform required. It is certainly of value in the case of habitual drunkards.

Suppose the patient now on the table. Don't commence the chloroform until everything and everybody is ready for the operation. If there is any waiting to be done let the operator do it. See that there are no false teeth in the mouth, nothing tight about the neck, chest or abdomen, don't allow two or three pillows, which is the usual request, place the head on a level with the trunk, or lower; this guards against syncope.

The patient may lie on the back or side, I prefer the side. This position allows the saliva and mucus to run out of the mouth instead of down the throat, and prevents the tongue from falling back. When the patient is under the influence of the anæsthetic he can be placed in any position the surgeon requires.

The slight struggling, which is sometimes seen, is no indication to stop the chloroform, some of the assistants can control the patient's movements. Vomiting is sometimes troublesome at this period. It is a reflex action, and the best cure for it is to push the chloroform until the vomiting centre is paralyzed. If it does occur, see that all solid particles are cleaned from the mouth and nostrils, and satisfy yourself that none has found its way into the trachea. Vomiting, however, often gives the most trouble after the operation, and numerous drugs and other expedients are employed for its relief. Every now and then some new remedy is announced for the certain cure of vomiting after chloroform, but this simply means that it has not been tried often enough. I know of nothing that can be relied on to relieve this very distressing symptom. If an opportunity offers during a prolonged operation I would allow the patient to approach consciousness, this tests his powers of reviving and rests the heart.

What about the quality of the chloroform to be used? The most practical way to dispose of this subject is to buy the best recognized brand on the market. This is more satisfactory than trying to test it for yourself, and will stand you in better stead in a court of law.

The last point I will touch upon is in relation to the apparatus used in the administration, and I will at once state my preference for a Junker's Inhaler. This instrument is so arranged as to regulate the amount of chloroform taken at all times, it insures the admission of plenty of air and requires very little chloroform, it is a simple instrument, and would be safe in the hands of the most inexperienced; but any apparatus is dangerous if it leads the operator to think that by using it he may relax his personal attention to the patient.

In conclusion I would say that I consider everyone who administers chloroform should make himself aware of its dangers and should bear in mind the indications which announce these dangers. Every administration of chloroform is in itself a serious procedure and should only be undertaken with a feeling of responsibility, and with the consciousness that the life of the patient is in the hands of the administrator, and should occupy his constant and undivided attention.

An experienced and observant person will instinctively gather from numerous indications the approach of danger, and in the hands of such a person, the risks incident to the use of chloroform will be reduced to a minimum, but I do not believe that the danger factor can be wholly eliminated.

DISCUSSION.

DR. GRANT (acting chairman)—There is one point which has not been brought up to-day which is important in the administration of chloroform. Since the introduction of this agent by Professor Simpson, whom I knew well personally, we know the great advance that has been made in gynæcological practice in the use of this material. I have been for many years using chloroform in obstetrical practice, and I wish to refer to one fact in connection with it, that is the cumulative effect of chloroform. For over twenty years I have steadily used it in practice, and the method I adopt is this—when the pains become strong and the case is well advanced, the patient herself, who is generally the individual to secure an ounce of chloroform, asks if something cannot be done to relieve her sufferings. When I suppose the case may be completed in an hour or two, I commence with the administration of a drop or two of chloroform administered on a common handkerchief. I continue this until I find a slight approach towards a narcotic effect. This will pass off and the woman will talk with you. I find by giving 20 or 25 drops of chloroform in that way, at the conclusion of the case the woman goes into a profound sleep, and is delivered without any difficulty whatever. In the last week I had occasion in two extremely difficult cases to use chloroform and the forceps. I administered the chloroform by the drop method, keeping it up, and at the last moment giving about half a teaspoonful. The woman went into a profound sleep and I used the forceps without the knowledge of the patient at all. I do not approve of the administration of chloroform only at the last moment. I have a considerable amount of obstetrical practice, and I have very great pleasure indeed in mentioning this fact today, because I am positive there is no medicinal agent administered, not even digitalis., which has more cumulative effect than has chloroform, given in that way. It is important that those who may not have done so will in their practice test the fact, and I am sure you will do it with great satisfaction to yourselves and to your patient.

Dr. McLean—At the risk of being considered talkative, I should like to say one or two words on this subject. I was taught to believe in chloroform by Simpson, and I am sure anyone who has had the privilege of listening to his eloquent, ingenious and forcible lectures could not fail to have a strong impression made upon his mind. That was the case with myself, and the consequence is that I have stood up for chloroform from that day to this, and I have always used it in surgery, and midwifery also when I used to practice in that line.

It was a very excellent, valuable and practical paper, but there are one or two thoughts recalled to my mind by the paper from my own experience. There is a class of cases not referred to by the author of the paper, and that is those cases which die before they get any chloroform at all. It is not such a very uncommon class. There are one or two cases of that kind that are historical. There is a case recorded by Simpson. An appointment was made in the Royal Infirmary to perform an amputation, but owing to Mr. Simpson's enforced absence the anæsthetic was not used and the patient died before the operation commenced. I had in my own experience a similar case. I was asked by a brother doctor to see a patient with an abdominal tumour. I went to her house with the doctor and found a very fine, healthy, vigorous Scotch lady, who had come a little distance by rail for the purpose of having an examination made. She lay down on the sofa and the examination did not take nearly as long as it has taken me to tell it, because it was exceedingly simple, involving no vaginal examination, no anæsthetics or instuments. I simply passed my hands over the abdominal walls. I said: "You have a favorable case for operation and your best plan is to go home and make arrangements to have the operation done." The doctor said: "I have never done such an operation and I wish you would stand by me and see me through it." About an hour afterwards the doctor came and said: "I have changed my mind—it is a serious case and I will let you operate." I said: "I do not think it." He said: "Doctor, she is dead." He said we had not come a block from the house when she turned over on the sofa and died. Unfortunately no post-mortem examination could be had, and we do not know even now the cause. I mention these cases to impress the fact, as I have had occasion to do in court and elsewhere, that patients die suddenly who do not have any chloroform, and because they sometimes happen to die on the table under chloroform it is not fair or just to say that it is always caused by the chloroform. I had occasion to write to the daily papers on account of excitement on that subject over a death that occurred in Detroit and which led to some threats being uttered. I contributed a brief article to the papers pointing out these facts and stating, with all reverence, that the patients die by the visitation of God. We cannot tell whether it is the chloroform or not. Once more, there is a class of cases in which I think chloroform or any anæsthetic is dangerous, and that is operations about the rectum, ligaturing or cutting off hæmorrhoids. Often it is dangerous in an operation for fistula. There seems to be some direct relation, perhaps, through various nerves, with important organs, I may say vital organs, that are involved in this class of cases. I have had more frights in the administration of chloroform in operations about the rectum than in any other part of the body. You ligature a hæmorrhoid and draw it tight, but you must watch the patient's face. There is a peculiar shock; even when the patient is under the influence of chloroform and feels no pain at all I have repeatedly seen danger. A few months ago I had to appear in the witness box in the case of a brother doctor who was sued for heavy damages for the death of a patient supposed to die from the effects of chloroform in a simple operation for hæmorrhoids. I think it is an important and practical point to make, when you consider how in other operations the patient pulls through. Take abdominal operations. I have myself plowed around the abdominal cavity for three hours and had no danger or trouble at all. The patient slept quietly and peacefully all the way through. No such alarming symptoms as occurred from the simple operation of cutting off an external hæmorrhoid or ligaturing an internal one were visible.

The method of administering chloroform suggested by the writer of the paper is an excellent one. My own preference is for that arrangement known as Esmarch's inhaler—that little simple inhaler—a little piece of cotton over a small wire frame, so that you can drop the chloroform drop by drop. It is very economical so far as the chloroform is concerned, and a very safe way to administer it. I have settled down finally to that and would be loth to change to any other method. But over and above all that, I have one more remark I wish to make, and that is that I think the war between ether on the one hand and chloroform on the other, has not been carried on scientifically. Ether was first used as an anæsthetic on this side of the Atlantic in Boston, and naturally there is a great preference for it there. In some other directions also, on the supposition that it is safer, a claim has been made in favour of ether. Now it may be safer—I am not sure of it. I think when it is all summed up, when as many patients have had ether as have had chloroform, there will be found to have been as many catastrophes on the one side as on the other. Then there are such advantages in chloroform in another respect. Just the day before yesterday I went with a member of this Association to an operation where ether was used. We all got tired before the patient was anæsthetised and were afraid of missing our train. Finally half an ounce of chloroform was found in the company and it was used and the operation was over in a short time. Whether there are any disadvantages in it or not I am not sure. I have been giving chloroform now for over thirty years, and I have never yet seen a death from chloroform. I am sorry to say I have seen my patient die on the table, but it was from hæmorrhage, or shock, or some prolonged operation, but never in a case in which I could really attribute the disaster to chloroform. I do not say that in a boastful spirit—far from it. I know it is a thing which may happen at any time to any person, but I tell it as a matter of fact; I have been giving chloroform largely and continuously in all sorts of cases for thirty years and never yet have I seen an accident. I think something does depend on the way it is administered, and at all events we should recognize that there is danger in it and never give it carelessly. After a man has got into the way of operating and all goes off smoothly, he hardly allows himself to think of the possibility of a catastrophe; that is the very time he should be on the look-out. He may omit some precaution and fail to arrest death. When danger is threatened, it may be obviated by careful precautions or active interference, but there are other cases I am aware of where the patient dies and nothing can be done, and I do not think there is any blame to be attached to the surgeon who administers chloroform under those circumstances. It comes under the verdict which I have already indicated.

Dr. Hill (Ottawa)—These conversations are very interesting and also instructive. As a hospital surgeon of some thirty years standing I may be permitted to state the result of my experience. I am happy to say that I have had only one death where chloroform was used. It was the case of a female, the wife of one of the privates of the 60th Rifles. I was not the operator; I was invited by the surgeon to assist in the operation, in company with the late Dr. Beaubien. I took charge of the chloroform administration and I administered about two drachms. My practice is to take a towel and make a cone of it, sometimes with a piece of sponge in it. In this case to which I have referred I certainly did not use more than two drachms of chloroform. We know how rapidly chloroform evaporates, and therefore I do not think I gave more than one drachm. However, when the operation was entirely over I saw an extremely queer movement; I thought the patient's head was in a bad position and I got a pillow and put it under her head. However, she made an effort to vomit, turned over on her side, and when we looked she was dead.

DR. McLAREN—With regard to the point made by Sir James Grant, as to the cumulative effect of chloroform, I am thoroughly in accord with his views on the subject. I think chloroform can be administered easily in that way. At first a considerable quantity is required, but afterwards very little will suffice. The method of giving it in obstetrics, as Sir James Grant has described, seems to me to leave very little to be desired. I am convinced of the cumulative effect of chloroform.

DR. BALFOUR—I did not pretend to give anything like an exhaustive statement of the dangers attending the administration of chloroform. I have probably administered it over nine hundred times, and I have given the results of my experience as well as I could. I can agree with what the acting chairman has said as to the use of chloroform in obstetrics. For the last six years that branch of practice in our hospital has been altogether under myself. With regard to the comparison between chloroform and ether, I may say that I have had no experience with ether. It is a subject that practical men must speak of with more authority than mere scientists. I am of opinion that chloroform can be administered with as much safety as ether. However, I have never used ether and I cannot speak of it from a practical standpoint. In conclusion I wish to state that I feel highly flattered with the manner in which this paper has been received by the Association.

SIR JAMES GRANT (Acting Chairman)—We are all interested in this subject inasmuch as we know perfectly well that death from chloroform might happen even with the most experienced physician, and it is well that we should have all the facts that can be brought out on a subject like this placed succinctly before us as they have been to-day.

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

By Francis J. Shepherd, M.D., C.M., M.R.C.S., Eng.
Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

New Operations for the Radical Cure of Hernia.—Every month brings forth a new batch of operations for the radical cure of hernia, each new operation, if we may take the word of its inventor, the most perfect and satisfactory yet produced, and giving none of those frequent relapses which so often follow other operations. The ingenuity displayed by some surgeons in endeavouring to modify or improve on old operations is amusing; each one wishes to have an operation named after himself, and have a little ephemeral notoriety. It has always been the way, and will, I have no doubt, continue so to the end. Time will sift the grain from the chaff, and those who have really added a valuable operation to surgery will not be forgotten, whilst the others in a few years' time will be as if they never were.

Salzer of Utrecht (*Centralblatt f. Chir.*, Aug. 20, 1892) describes a new method of radical cure of large femoral herniæ, In small herniæ, excision of the sac with ligature of its neck has proved fairly successful, but when the hernia is larger than a hen's egg this simple procedure is more likely to be followed by speedy recurrence than by an abiding cure. In cases of large femoral herniæ, Salzer objects to any attempt to bring together the margins of the ring by suture, as the resistance of the fibrous structures of the ring would very probably cause local gangrene and sloughing. The plan of closing the canal by cicatricial tissue, either by removing its fatty and glandular contents or by inserting foreign material, is also open to objection, as the new tissue thus produced is apt to become absorbed. Salzer's method consists in first removing the sac and then closing the external orifice by a flap formed by the fascia covering the pectineus muscle. This flap, the free convex margin of which is divided downwards whilst its upper portion remains attached to the muscle, is turned upwards and fixed by sutures to the middle third of Poupart's ligament. In this way the septum crurale is replaced by a tough and resistant layer of fibrous tissue. The thickness of the pectineal fascia varies in different subjects, but the membrane is most likely to be found sufficiently resistant in old persons and those who have for a long time worn a truss.—(Quoted from *Supplement to British Medical Journal*, Oct. 1st, 1892.)

Mr. Watson Cheyne (*Lancet*, Nov. 5th, 1892) describes a somewhat similar method for the radical cure of femoral hernia, only he rejects the pectineal fascia as being too weak and thin for the purpose of forming a flap, and, instead, turns up a flap of the pectineus muscle itself. His plan of operating is as follows: After the hernia has been reduced, the neck of the sac is ligatured and stitched to the abdominal wall; a flap is then mapped out in the pectineus muscle of sufficient size to fill up the crural canal without any tension and including the whole thickness of the muscle. The incision in the muscle begins at the inner wall of the crural canal, runs for a short distance parallel to Poupart's ligament, and then curves downwards, outwards and upwards. At the two lowest angles of the flap, stitches are passed and tied so as to get a good hold of the muscle. The flap is then peeled off from the bone and the stitches are passed through the abdominal wall above Poupart's ligament. The result is that the femoral canal is completely filled up with a thick mass of muscle which soon unites to the sides of the canal, and although its muscular elements may atrophy, a dense mass of fibrous tissue will be left behind. Mr. Cheyne makes use of Chinese silk stitches. He has operated in two cases, with, so far, perfect results. The region of the crural canal remains a hard mass, without the slightest impulse on coughing, and the patient does not wear a truss.

Professor Theo. Kocher, of Berne (*Correspondenzblatt für Schweizer*, Aertze, 1892, and *Annals of Surgery*, Dec., 1892) publishes an elaborate article reviewing the various operations already established for the cure of inguinal hernia (*e.g.*, Macewen's, Barker's, Ball's, Bassini's), and describes an operation of his own. An incision is made in the direction of Poupart's ligament and a little above it, through the skin and superficial fascia. The superficial epigastric artery is tied; next the intercolumnar fascia covering the external abdominal ring is divided with the cremasteric and the infundibuliform fascia. The spermatic cord is now separated and lifted up, and one can recognize the thin edge of the hernial sac; this latter is carefully separated from the cord and surrounding structures, then forcibly pulled out and its pedicle exposed. The index finger of the left hand should then be introduced into the spermatic canal through the external abdominal ring, and opposite the internal ring a small opening should be made through the aponeurosis of the external abdominal oblique and the underlying fibres of the internal oblique and transversalis. Through this opening a pair of artery forceps should be pushed and made to traverse the spermatic canal, coming out at the external ring; here they should be made to seize the bottom of the dependent sac and the sac should be pulled through the canal and pulled out through the opening made opposite the internal ring and drawn out as much as possible. Now this sac should be twisted after Ball's method of torsion. After it has been twisted up tightly it should not be removed, but strongly drawn down and laid along the outer surface of the external abdominal oblique, in the direction of the spermatic canal, and there firmly fixed by sutures; a groove for the lodgment of the twisted sac is made by the tension and through the upper wall of the groove sutures are passed which include the internal oblique and transversalis as well as the aponeurosis of the external oblique, and after going through the twisted sac itself is made to go beneath Poupart's ligament. Five to seven of these sutures are passed, the lower ones approximating the pillars of the external ring, and tied. Any of the sac that projects beyond the external ring is cut off. In this way the canal is closed and the sac acts as a solid pad through the whole length of the canal. the peritoneum being put on the stretch laterally, and pressed firmly against the abdominal wall at the site of the internal inguinal ring. The operation is more certain when the upper suture can be deeply applied laterally from the point where the spermatic cord enters the abdominal wall.

Prof. Kocher employs the same method in cases of femoral hernia. The sac having been completely isolated and twisted as strongly as possible, is drawn through a small opening above Poupart's ligament and treated as in inguinal hernia. The sutures are passed through the pectineal fascia and Poupart's ligament, and in this way the femoral ring is closed. In Professor Kocher's klinic 119 cases of hernia have been operated on from 1886 to 1891; of these, 94 were traced and gave the result of a recurrence in 20 per cent. In some of the cases of recurrence he himself did not operate; in others only the external ring was sutured. The average was 23 days in hospital in the eight cases where suppuration took place, the rest were allowed up in 7½ days. Prof. Kocher thinks that if some of the patients could have remained, as Macewen recommends, six weeks in bed the results would have been better, but on account of limited hospital space such an extension of time was impossible. The author states that he carried too far the non-wearing of trusses after operation, and thinks that in those who are the subject of multiple herniæ trusses should be worn. He says the first of the conditions necessary for the obtaining of a positive radical cure is perfect asepsis. The second condition is high ligation of the neck of the sac, and the third condition necessary to a good result is the closing of the hernial canal. If all these conditions are fulfilled a radical cure results. Certainly the results obtained by this operation appear brilliant, but the time that has elapsed since the performance of the operations has not been given. In certain cases where the sac is very thin, the difficulty of treating it as described above seems to me not without difficulty, and, again, the method of treating the congenital cases is not dealt with.

Prof. Kocher is a brilliant and original surgeon, and anything coming from his pen should be treated with respect. I have no doubt his method will have a fair and full trial on this side of the Atlantic, where no method has as yet completely satisfied surgeons as being the ideal one.

Treatment of Gangrenous Hernia.—When strangulated hernia is gangrenous, Dr. T. Rousing of Copenhagen (*Centralblatt f. Chirurgie*, July 16th, 1892) pulls forward the suspicious loop of bowel and sutures it to the abdominal wall. The sutures should be of catgut and silk, and should only include the serous layer of the bowel. The parts should then be dressed with sterilized gauze, and you should wait for developments. Should the loop return to its normal condition, replace it; when, however, it is gangrenous, either resect the bowel or establish an artificial anus.

Poulsen of Copenhagen (*Centralblatt f. Chirurgie*, No. 30, 1892) long ago advocated the establishment of an artificial anus instead of resection in gangrenous herniæ, and he still adheres to the treatment. After opening and irrigating the hernial sac, the incision in the abdominal wall is enlarged, the bowel drawn out, and sutured to the abdominal wall. Should perforation occur, close the exposed part with artery forceps and wrap in iodoform gauze. After one or two days the loop is destroyed by the thermo-cautery, the enterotome used, and enteroplasty performed. Three out of five cases treated by this method recovered.

Jules Marin of Paris, in a paper on the subject, describes a procedure proposed by Chaput and Deschamp, the essential point of which is the immediate removal of the spur resulting from an artificial anus by primary longitudinal splitting and subsequent suturing. After circular resection of the gangrenous portion, with or without cuneiform excision of mesentery, both free ends of the divided bowel are placed side by side. In each a longitudinal incision of from 6 to 8 cm. is made 1 to 2 cm. distant from the insertion of the mesentery. The four edges of the two longitudinal splits in the intestine are sutured, so that both lumina of the bowel freely communicate. After this suturing the two ends of the bowel form a condition of a pair of trousers, whose common upper broad opening still requires closing. This closure may be complete, or a small opening may be left as a safety valve, and its edges sutured to the hernial sac. (*Quoted in Annals of Surgery*, January, 1873.

Dr. Ransohoff, of Cincinnati, in an article on the *Treatment of Gangrenous Hernia (Annals of Surgery*, October, 1892) reviews the literature of the subject. He reports four cases with two recoveries. In one of the fatal cases there was gangrenous omentum, but no intestine, in the sac. The omentum was tied off but patient died of peritonitis twenty-four hours after. The second case was a very large femoral hernia in a woman aged 69. It was not operated on, taxis being apparently successful. Patient died next day. At the autopsy there was a localized gangrene with perforation. The third case was a female aged 30, with a femoral hernia strangulated four days. At the operation a suspicious patch was seen in a portion of the ileum and the gut was returned with trepidation and held in place with cat-gut sutures, the wound being packed with iodoform gauze. Perforation occurred on the fifth day and a fecal fistula was the result. This, however, closed spontaneously in about a month. The fourth case, a female with large inguinal hernia. On operation the gut was found gangrenous and fourteen inches were removed. The two ends of bowel were then sutured together with a continuous Lembert. The operation took fifty minutes and the patient recovered without a bad symptom, and when last heard from, nine months after the operation, was quite well.

Operative Treatment of Diaphragmatic Hernia—Swartz and Rochard (*Revue de Chirurgie*, September, 1892), in a paper based on a fatal case of strangulated diaphragmatic hernia, discuss the surgical treatment of this affection. The diagnosis of this lesion is extremely difficult and even laparotomy does not always discover it. In most cases it is very difficult and in some cases impossible to reach the seat of the hernia so as to be able, by relieving the strangulation, to drag the strangulated intestine downwards into the abdominal cavity. Radical cure also, even if the strangulation be relieved, is rarely possible, and thus the return of the hernia is likely. The authors recommend dealing with the hernia by a transpleural method of operation as follows: After the pleural cavity has been opened by a free incision and the removal of a portion of the ninth and also the tenth rib, the hernia is exposed and can be manipulated as readily as any form of external strangulated hernia. The constricting ring may be incised, the sac opened and, together with its contents, carefully cleaned and every precaution observed to prevent peritoneal infection. Inflamed omentum and gangrenous bowel may be resected. To get a radical cure the sac should be excised, the edges of the opening in the diaphragm freshened and brought together by sutures, including muscular structures and pleura. It is advised that the exploratory laparotomy wound should be left open until the completion of the transpleural operation. In this way the pneumo-thorax soon disappears. Postemski and other Italian surgeons have performed the transpleural operation with success in cases of omental diaphragmatic hernia of traumatic origin (quoted in Epitome of *Brit. Med. Jour.*, November 5, 1892).

Mr. Henry O'Hara, of Melbourne, Australia, describes a *New Method for the Radical Cure of Hernia*, which he has carried out in no less than sixty cases (*Brit. Med. Jour.* December 10, 1892). The operation is as follows: Having freed the vas-deferens, a long, strong carbolized gut or sterilized silk suture is tied around the neck of the sac; a second suture of finer material is placed about a quarter of an inch lower down and the neck of the sac divided between the two. He then introduces the index finger of his left hand as far as possible up the inguinal canal, anterior to the peritoneum, and having satisfied himself that no important structures lie between the tip of his finger and the abdominal parietes, he makes an incision—through the skin only—from without at a point corresponding with the tip of the finger on the inside. This is the point he selects for fixing the stump, which is in most cases from 2 to 2½ inches above the internal abdominal ring. A guarded needle threaded with one of the long sutures attached to the neck of sac is now passed up the canal on the finger to the point selected for fixing the stump and driven through the parietes. The needle having been unthreaded is withdrawn to be threaded again with the other end of the ligature, and is re-introduced up the canal and brought out at a little distance from the first. The two ligatures are then firmly tied, the ends cut off and the sac thus secured. A decalcified bone drain is now introduced into the canal and the margins are laced together over it with silkworm gut ligatures. The superficial wound is brought together with horse-hair, and over all an antiseptic pad with a spica bandage. The plastic inflammation caused by this procedure brings about a sufficient narrowing of the canal to prevent recurrence of the hernia.

SURGERY OF THE RECTUM.

Extirpation of Rectum.—Shelkly, of Utrecht (*Berlin Klin, Woch*, August 8, 1892) describes a new method of extirpation of the rectum. The patient is placed in the lithotomy position, the buttocks brought to the edge of the operating table and raised so that the intestines may fall back into the abdominal cavity. An incision is then made commencing at the inner margin of the right ischial tuberosity and carried over the coccyx to the left ischial tuberosity. The coccygeal attachment of the sphincter ani is next divided close to the bone. With the left forefinger the connective tissue is separated, and with a pair of scissors the levator ani muscle is divided, first to the left then to the right, as far as the limits of the skin incision. The posterior wall of the rectum, at this stage of the operation, usually appears in the bottom of the wound. If it be necessary to expose the pelvic organs, the coccyx should be divided by a transverse incision. The part of the rectum to be removed is next separated and cut across transversely just above the external sphincter. The rectum is seized with forceps and separated until the upper limit of the disease has been passed. In cases of carcinoma which extend high up, it is necessary to open Douglas' pouch. Afterwards the rectum is brought down and sutured to the lower segment. Shelkly has operated in this way five times, three cases of carcinoma, one syphilitic stricture and one atresia of the rectum: all recovered. In a sixth case a carcinomatous tumor was removed from the middle of the sigmoid flexure, together with part of the meso-colon. The part of the sigmoid flexure above was brought down and sutured to the end of the rectum. The patient died three weeks after operation. In the seventh case two and a half inches of the rectum were removed, Douglas's pouch opened and an ovarian cyst and Fallopian tube removed. The pedicle was dropped back and the aperture closed with silk sutures. The patient made a good recovery, and five months afterwards had no sign of recurrence. In the eighth case the patient, with carcinoma of the rectum, died two days after operation. (Quoted in epitome *Brit. Med. Jour.*, October 8, 1893.)

Excision of Cancer of Rectum, with Selection of Cases—Mr. Harrison Cripps says that according to his researches into the pathology of rectal cancer (*Brit. Med. Jour.*, December 10, 1892), there is only one form ot the disease, adenoid carcinoma, yet clinically the growths have very different features, because in some cases the disease grows more rapidly than in others. So long as the growth has not perforated the muscular coats, the prospects of an operation are hopeful; but on the other hand, when it has once extended beyond the bowel the prognosis becomes most unfavorable. Before advising operation the surgeon should assure himself that there is no general infection, that the lumbar glands and liver are not affected, although usually these structures are not implicated until late in the disease, still in some cases there is early infection of these structures, whilst the local disease is quite insignificant; this most often occurs in younger patients. For purposes of examination the finger is the proper instrument, and ether should be given in doubtful cases. Other cases where operation seems inadvisable without ether, under it the muscles relax, the growth becomes moveable, and the case appears to be quite suitable for operation. After describing cases suitable and unsuitable for operation, and also the appearance and clinical features of cancer of the rectum, Mr. Cripps goes on to say that during the last 15 years he has examined upwards of 400 cases of cancer of the rectum, and in about half he advised against operation either by excision or colotomy. In the remainder of the cases operative interference was urgently advised. In many the advice was not followed, but in 114 cases Mr. Cripps operated 38 by excision and 76 by colotomy. Of the 38 cases of excision 3 died, 35 recovered; mortality less than 8 per cent. Seven of these cases were lost sight of, in 10 the growth recurred within one year, five between the first and third years, one died a year after without recurrence, and one had no recurrence after eighteen months. In 11 no recurrence one to twelve years. In seven of these three years had elapsed since operation. The great trouble after operation is the tendency to contraction. This can be avoided by proper treatment of the wound during the healing process. By introducing into the bowel a full sized rectal bougie 1 5-16 of an inch in diameter, this complication may be avoided. The introduction should commence at the end of a fortnight, the bougie should be allowed to remain in some hours daily for a month. The patient should then pass the bougie daily for a year or longer. The tendency to contraction seems gradually to disappear and gives little trouble after the second year. In three cases the recurring disease was successfully removed and the patients did well.

In a paper on *The Choice between Extirpation and Colotomy in Cancer of the Rectum*, Dr. Chas. Kelsey, of New York, comes to the following conclusions (*New York Medical Journal*, November 12, 1892):—

1. The operation of excision of cancer of the rectum has a very limited range of application.

2. Kraske's incision, though enlarging the scope of the operation, has, on the whole, in no way improved the results.

3. In colotomy we have a method of treatment almost free from risk, and one that in any considerable number of cases will give a longer length of comfortable life.

4. Extirpation is more often indicated in non-malignant than in malignant stricture, but even here the advantages over colotomy are not sufficient to justify the increased risk in graver cases requiring extensive operation.

Resection of the Entire Ilium. Nelaton (*Revue d'Orthopédie*, No. 5, 1892) reports a case in which the whole ilium was invaded by caseous fungous masses. The entire bone was removed after the separation of the internal periosteum by a division through the ilio-sacral joint, the horizontal ramus of the pubis and the posterior superior portion of the acetabulum. There was no involvement of the joint, and after thorough curetting, drainage and antiseptic treatment, the patient made a good recovery. A new fibrous articulation formed in a position corresponding to the external iliac fossa; there was shortening, but the use of a high shoe and cane enabled the patient to walk moderate distances. The author reports the case as a pathological curiosity, and to show that with less than one ilium it is possible for a patient to walk easily and well. (Quoted in *Amer. Jour., Med. Sc.*, January, 1893, No. 1.)

Suture of the Spinal Cord.—Chipault (*Revue Chir.*, August, 1892) criticises the proposal made by Maydl and others, that in cases of old division of cord, or of its functional destruction over a certain extent from schlerosis, two fresh and healthy surfaces made by clean section might be brought together and maintained in contact by sutures. In these two categories of cases the author holds that such treatment is anatomically impossible. In three subjects examined after death from fractures of the spine, it was found that the retraction of the medullary segments and the extent of the schlerosis necessitated free resection, and that the inelasticity of the cord and the resistance of the ligaments formed by the pia mater prevented apposition of the cut surfaces. On the other hand, in cases of recent division of the cord by a cutting instrument in which it is not necessary to practice medullary resection, suture of the cord, or, strictly speaking, suture of its sheath of pia mater is possible in the cadaver and very probably would be found so in the living subject. After describing the method of suture with fine silk, he says, that it often happens that one or more nerve roots are found divided, together with the cord, especially at the lumbar swelling along which the nerves forming budles take a parallel course. It would always be possible in such cases to suture the peripheral ends of the divided nerve either to its central end or to the intact nerve root corresponding to a portion of the cord placed below the injury. (Quoted in *Epitome of Brit. Med. Jour.*, September 24, 1892.)

The Aseptic Treatment of Wounds.—Neuber, of Kiel, in a clinical lecture (*Archiv. fur Klin. Chir.*, Bd. xliv, Hft. ii) on wound treatment says that during an operation there should be no irrigation of the wound, and only once, immediately before the insertion of the sutures, should the wound be washed with a 0.6 p.c. of salt solution. No drainage is used and the wound is immediately closed completely. With the exception of a sponge enveloped in sterilized gauze, no antiseptic or sterilized dressings are employed. The latest developments of the author's methods are as follows: The whole wound is loosely filled with moist sterilized gauze in long strips two-thirds of an inch wide; all ravellings are to be removed before use. If surgical tuberculoses are under treatment iodoform gauze is used; over this gauze the lips of the wound are laid and carefully united by suture, except a small cleft at either end of the line of union. One end of the gauze strip is brought out of this opening. While an assistant compresses the parts with sponges enveloped in sterilized gauze, the operator carefully withdraws the strip by pulling on its projecting end. On the removal of the gauze the remaining opening is closed by sutures which have already been inserted but have remained untied. Compression with sponges is then made and this drives out any remaining air and blood, and they are then retained in place by a bandage. Over these sponges, cotton and splints may be applied. If any filament of gauze remains behind in the wound it will not give rise to any reaction nor interfere with healing. (Quoted in *Univ. Med. Mag.*, January, 1893.

Hernial Protrusion of a Ureter in the Inguinal Canal—Reichel reports the case of a boy (*Archiv. für Klin. Chir.*, Bd. XXIV, Hft. 2, p. 431), seven and a half years old, who for four and a half years had presented a tumour in the right inguinal region, extending into the scrotum, increased by cough and disappearing when the recumbent position was assumed. For four years a truss had been worn; the tumor, nevertheless, had progressively increased in size. The mass was longidudinally oval and about as large as a hen's egg. It was readily though not entirely removed by taxis, a small hemispherical mass, perhaps as large as a hazelnut and of soft consistence, remaining unreduced. The finger readily passed through the inguinal canal into the abdominal cavity. The columns of the canal and the abominal walls were relaxed. Both testicles were present in the scrotum, the right appearing adherent to the hernial sac and moved slightly upwards when the tumor was reduced. Herniotomy was performed and it was found that the swelling was caused by a dilated and tortuous ureter, narrowed below by a stricture and communicating above with a hydronephrotic sac. The tube was divided, its lower portion being ligated, whilst it was sutured in place, so that a ureteral fistula remained. Subsequently the rest of the ureter and the kidney of that side was removed. The extirpated sac had a capacity of about two quarts; it was surrounded by a layer of healthy renal tissue three-quarters of an inch thick. It was thought that at some previous period ulceration of the ureter had taken place, as the result of the presence of a calculus, and that this caused cicatricial narrowing and the secondary development of the hydronephrosis. (Quoted in *Phila. Medical News*, October 15, 1892.)

Treatment of Malignant Tumors by Repeated Inoculations of Erysipelas—Dr. W. B. Coley, at the meeting of the Section of Surgery of the New York Academy of Medicine, held December 20, 1892, read a paper having the above title (*New York Med. Record*, January 14, 1893). He reported ten cases. He had been stimulated to try this method by a case which had occurred in the New York Hospital, and on which several operations had been performed by Dr. Bull, always, however, with recurrence or extension, until accidentally the wound became inoculated with erysipelas, after which it healed and there had since been no return, although seven years had elapsed. The first case in which he had an opportunity to try artificial erysipelas was one of sarcoma of the neck, which had been operated on by Dr. Bull without, however, being able to remove the whole disease. It almost completely blocked up the pharynx. Dr. Coley injected small quantities of erysipelas buillon cultures into the wound. Slight local and constitutional reaction followed, and the tumor of the neck perceptibly diminished in size. Within a few months the tumor had reached its original size and a fresh culture was injected, this time into the tumor. An active erysipelatous eruption with constitutional disturbance ensued, the eruption extending over the head and face. In two days the tumor on the neck began to break down and discharge freely and in two weeks had almost entirely disappeared. The appetite improved and there was rapid gain in health and strength. The local trouble was no longer of significance, and up to the present time there has been no return. The patient, however, was addicted to the morphine habit, which he still continued. In the next two cases he failed to get the erysipelas to take. The fourth case was one of sarcoma of the back and groin. After several attempts at inoculation he finally succeeded in inducing an attack, the tumor shrank, became pale, and in three weeks disappeared, leaving scarcely any induration and rapidly gained flesh. After several months there was a recurrence, and in July last he again succeeded in inducing erysipelas and again the tumors disappeared. There was at present another recurrence. The seventh case was one of carcinoma of the breast, of five years standing, and on which four operations had been performed. The inoculations were made in August last with temporary benefit, but there has since been an increase in the size of the tumor. The ninth and tenth cases were likewise carcinomatous, one effecting the cervical and the other the inguinal glands. They had improved under the erysipelas treatment. With his own cases the total number found by the author in which erysipelas had become either accidentally or intentionally engrafted upon malignant tumors was 38, 17 of which were known to have been carcinoma and 17 sarcoma. The immediate result in 17 cases of carcinoma was a permanent cure of three, 10 showed temporary improvement and one died as the result of the erysipelas on the fourth day. Of the 17 cases of sarcoma seven were well at periods from one to six years after the attack of erysipelas, 11 showed more or less marked improvement, and one died. The author thinks that the cure has been effected by an antagonistic bacterial action. According to recent experiments it would seem that the effect of this treatment is not merely local in its action, but sometimes constitutional, causing the disappearance of tumors at a distance from the inoculations. Dr. Coley's experience is very instructive and gives us some ray of hope, even in the most hopeless cases, viz., those of sarcoma of the neck. I might add another case of benefit derived from erysipelas to those already cited. Some six years ago a patient had an epithelioma on his lip which was removed by some "cancer specialist" in the country with plasters. The man remained well for two years, when his submaxilliary glands on the right side became affected and the right side of the lower jaw. He was operated on by me, and the right side of his lower jaw was removed with the floor of mouth and submaxillary glands. He rapidly recovered, but the disease soon returned in the remaining half of the jaw, and within a year he re-entered the hospital and I removed the left side of the jaw with a lot of infiltrated tissue about the submaxillary region. After a few days he contracted a severe attack of erysipelas, from which he recovered rapidly. He went out well and has remained well now nearly three years.

The Treatment of Cicatricial Stenoses of the Œsophagus.—Dr. Willy Meyer reports two cases of stricture of the œsophagus which were operated on (*N. Y. Med. Jour.*, November 19, 1892) and after discussing the subject, comes to the following conclusions:

1. After swallowing acids, &c., sounding should be begun as soon as the internal wounds have healed, certainly not later than four weeks after the accident.

2. If a stricture of the œsophagus has been developed, and is impermeable from the mouth, the patient should be submitted to an operation as early as possible. No forcible dilatation should be permitted for fear of injury to or perforation of the œsophagus.

3. External œsophagotomy for the establishment of a temporary fistula of the neck, will be found useful and sufficient in many cases, especially in children, as from this point the stricture can be easily passed and a tube left in situ. This proceeding is always indicated in multiple strictures.

4. In grown persons, and those who are emaciated and require immediate nutrition, primary gastrostomy, with subsequent retrograde sounding, may be preferable.

5. If the stricture has been successfully dilated, or if the same sound which passed in through the wound on the neck can also be pushed down through the mouth, the fistula must be closed. If gastrostomy has been performed then a special operation for closing the gastric fistula must be undertaken.

6. In a number of cases there is a limit to the amount of dilatation, or, again, the stricture rapidly contracts; and in these cases internal œsophagotomy is the only means of cure.

7. Internal œsophagotomy, if performed under these circumstances, is a very dangerous operation, chiefly because the wound cannot be kept aseptic.

8. A thorough disinfection of the intrathoracic portion of the œsophagus seems feasible by first adding gastrostomy to external œsophagotomy and *vice versa*, and irrigating through these openings. By tamponnading the cardiac and cervical ends of the tube, we may hope to keep wound aseptic.

9. From a wound in the neck, internal œsophagotomy can be carried out in the same way, and with the same instruments, as used for dividing strictures of the anterior urethra from within. The division should be made in a retrograde way only, the knife being passed first beyond the stricture. A guide pushed up from the gastric fistula will help to accomplish this, even in obstinate cases. It may become necessary, especially in adults, to have an instrument of a special length, and sometimes also with a special curve, made for the purpose.

Treatment of Empyema—At the meeting of the British Medical Association, held at Nottingham in July, 1892, a discussion of the Surgery of Thorax took place and Mr. Rickman Godlee opened the discussion, in the course of which in speaking of empyema he said (*Brit. Med. Jour.*, October 15, 1892), The site of election for incision in empyema is just above the level to which the diaphragm becomes adherent to the ribs when it has been drawn up as much as possible. This point is opposite the ninth rib just outside the angle of the scapula. It is the most dependent point when the patient is standing up or lying on his back. As a routine practice he removes a piece of rib, because (1) it allows of the best possible exploration of the pleura, (2) it permits the evacuation of masses of lymph, (3) it obviates to a great extent the difficulty of retaining or re-introducing the tube. The removal of a piece of rib greatly facilitates the better treatment and does not add to the danger of the operation. When there is danger of giving an anæsthetic on account of over distension, then Mr. Godlee first draws off some of the fluid into an aspirator before giving the anæsthetic. He uses a large rubber drain as large as the little finger for an adult, smaller for a child. It should be just long enough to enter the chest cavity, and have not more than one, or at most two holes close to the end. It should never be shortened, but when the proper time comes it should be removed altogether. The time of removal depends on the quantity and character of the discharge, so no definite time can be stated. The time is usually ten days in a young child, three weeks in an adult.

In very bad cases the patient in operating should not be put far over on his sound side, but he should be brought over the edge of the table, and the operator should, if necessary, sit down. If the chest be very full, a good plan is to place the patient well over on the diseased side. It will then be found quite easy to reach the ninth rib outside the scapular line by standing behind him. As an anæsthetic in these cases he believes chloroform to be the best. Complete anæsthesia should not be induced.

Double empyema is not so rare as one might think. A single empyema is occasionally missed, so also a second small empyema may sometimes escape notice when one side has been dealt with. Some are septic and then they are localized. Some are probably tuberculous. A septic case may be very acute, so that it is necessary to operate on both sides at the same time, or within short periods. Usually it is best not to open both sides at the same time, but wait until the patient is accustomed to the disturbance of respiration caused by the operation. Much caution should be used in dealing with a tuberculous empyema and pyopneumo thorax, especially in adults. If the disease is quiet leave it alone, as a free incision will almost certainly accelerate the patient's death. Mr. Godlee recommends the following plan: Into the anterior part of the chest a needle is to be inserted, connected with an india-rubber tube passing into a bottle containing some sterilized or antiseptic water; another needle, connected with the aspirator, is then inserted into the most dependent part of the chest and pus drawn off. After a while the fluid flows in to replace the pus, and at last it will flow clear into the aspirator bottle. Then the anterior needle may be taken out and the greater part of the liquid may be withdrawn from the pleura. A simple pneumo-thorax may be much relieved by drawing out the air with an aspirator. All cases of empyema do not recover, and Mr. Godlee mentions a number of causes of death, chiefly septic or abscess of brain, septic nephritis, shock, hemorrhage, embolism, etc. He says great care should be exercised in washing out the cavity. It is only necessary in fetid cases, and then only if the discharge remains or becomes offensive several days after operation.

I can heartily endorse all that Mr. Godlee says about the operative proceedings in empyema. For years past I have always insisted on the advisablity of removing a portion of rib with bone forceps, after having stripped off periosteum, for purposes of thorough drainage, and because the after dressings are so much more easy and less painful. Washing out, except in fetid cases, is a useless proceeding and cases do better without it. The use of the large rubber is also much more comfortable than any metal or glass drain.

SYMPHISIOTOMY IN A MAN.

At the meeting of the Académie de Médécine, of Paris, January 17th, M. Albarran presented a patient on whom he had performed the operation of symphisiotomy in order to remove an epithelioma of the bladder. (*La Trib. Méd.*, January 19th, 1893.)

Reviews and Notices of Books.

A Treatise on Nervous and Mental Diseases.—For Students and Practitioners of Medicine. By LANDON CARTER GRAY, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic, etc. With one hundred and sixty-eight illustrations. Philadelphia: Lea Brothers & Co. 1893.

Still another to the already long list of systematic treatises on diseases of the nervous system. Dr. Gray's name has been well known for many years in connection with neurology. He has written a work which in our opinion is the ablest production up to the present in this department of medicine from an American author. His own experience, especially in the therapeutics of disease is freely given. There is no lack of the *Ego* in this treatise. The following sentence from the article on neurasthenia will explain our meaning :—"If I am asked why I should be so dogmatic about the matter (referring to the treatment of neurasthenia), my answer would be simply that my dogmatism has been forced upon me by a long series of mistakes in my early days, and since I have reached my present conclusion I welcome cases of neurasthenia, whereas I formerly dreaded them." Somewhat similar sentences may be found here and there throughout the book. In spite of them it is worthy of perusal. The chapters on Mental Diseases will, we think, be of special value to the general practitioner.

A Treatise on the Ligation of the Great Arteries in Continuity with Observations on the Nature, Progress and Treatment of Aneurism. By CHARLES A. BALLANCE, M.B.M.S., Lond., F.R.C.S., Assistant Surgeon to St. Thomas's Hospital, and Joint Lecturer on Practical Surgery in the Medical School; Surgeon to the National Hospital for the Paralysed and Epileptic, Queen Square; Assistant Surgeon to the Hospital for Sick Children, Great Ormond Street, and WALTER EDMUNDS, M.A., M.C., Cantab, F.R.C.S., Resident Medical Officer, St. Thomas's Home. Illustrated by 10 plates and 232 figures. London: Macmillan & Co., and New York.

This volume contains the record of a large amount of original work extending over a period of six years. The subject is treated very fully and from all points of view. Commencing with hæmorrhage in man, the nature of arteries is next taken up and much valuable information given regarding the variations with position and age. Physiological and pathological occlusion is treated of, and that brings us to the obliteration of arteries by means of the ligature. This is viewed from the standpoint of the clot, the coats and the ligature respectively. There is a very valuable chapter on the choice of the ligature which is thus summed up by the authors: "The choice then must fall on ox peritoneum, kangaroo tendon, or boiled floss silk; and failing these on boiled Chinese twist, chromic catgut, or silk work gut." The knot is also discussed and objections shown to most ordinary methods. It is recommended to employ two or more separate ligatures tied with what is called a "stay knot." It is shown that the slipping of the knot is one of the most frequent causes of hæmorrhage, and that the slipping may occur either after the knot is tied or during the process of tying. It is also advised not to rupture the coats of the arteries, merely to occlude them. The book is well printed and illustrated by numerous plates, and should be read by every surgeon.

A Treatise on Diseases of the Rectum, Anus and Sigmoid Flexure. By JOSEPH M. MATHEWS, M. D., Professor of Principles and Practice of Surgery and Clinical Lecturer on Diseases of the Rectum, Kentucky School of Medicine; Visiting Surgeon Sts. Mary and Elizabeth Hospital; Consulting Surgeon Louisville City Hospital, etc. With six chromo-lithographs and numerous illustrations. New York: D. Appleton & Co.

This is the record of the personal experience of the author in this important and rather neglected field of surgery. The conclusions drawn and the procedures recommended are the result of his own observations, and cases are freely quoted to substantiate the statements advanced. There is much that is new in the book, and the various methods of dealing with diseases of this part of the body are fully discussed, and the reasons are given why the writer prefers certain forms of treatment. The book is written in a most temperate manner, not laying undue stress upon the importance of the subject, and not endeavouring to prove that all the ills the flesh is heir to may be cured by an operation on the anus or rectum. The author is able to speak with authority on the subject, having had a large experience extending over a number of years, hence his opinion is worthy of consideration, even if his views conflict at times with those generally accepted by the profession.

Human Embryology. By CHARLES SEDGWICK MINOT, Professor of Histology and Human Embryology, Harvard Medical School, Boston. New York: Wm. Wood & Co.

This work can scarcely receive justice in a short review, for each chapter deserves special mention and praise. The work is divided into five parts. The first is taken up with the Genital Products, giving a full description of the anatomy, comparative anatomy and functions of these products, and in a way which, though sometimes arbitrary, yet always gives new light. The origin of the ovum with its successive stages in development are clearly shown and though he passes over the views of Kölliker and Sebatier as deserving of slight mention, there can be no mistake made as to what the author himself thinks. His second part is a description of the Germ Layers. This cannot be said to contain anything very new; however, it states clearly the various views held upon Segmentation and enlarges upon the view put forward in 1887 by the author concerning this subject, viz., "That in all animals the ovum undergoes a total segmentation, during which the cells of the ectoderm divide faster and become smaller than the cells of the entoderm." Parts III. and IV. deal with the Embryo and Fœtal Appendages and contain all the latest views on these subjects, as well as many very valuable plates illustrating certain steps and proving certain assertions. Many of the old theories are here exploded and much new light added to what still remains somwhat obscure. Part V. deals with the Fœtus entirely, and begins by repeating what the author has already published in his article in *Buck's Handbook of Medical Science*, but has here added some very valuable plates from his own and other collections, which add much to the value of the article. The data given on the growth of the fœtus are very elaborate, and the author still impeaches Tolot for passing off counterfeit matter and treats as of no account what many embryologists have considered to be *authority* on this subject. His—whose work on the growth of embryo appeared in 1892—is still regarded as the best authority on this subject, notwithstanding that many observations have been made since then. In the development of the skeleton we will only refer to the chapter on the skull, which is perhaps one of the best *resumes* on this particularly knotty point that can be found. The old theory of the cranium being composed of expanded vertebræ is still taught by those who live in the 18th century, but by the advanced embryologists, such as the author, is ignored. Huxley, in 1858, was the first who opposed this theory, but he stood almost alone until Gegenbauer, twenty years late, published his work on the "Cephalic Skeleton of the Selachians."

Diseases of the Eye, Ear, Throat and Nose. By FRANK E. MILLER, M.D., Throat Surgeon, Vanderbilt Clinic College of Physicians and Surgeons, New York, JAMES P. MCEVOY, M.D., Throat Surgeon, Bellevue Hospital, Out-Patient Department, New York, and JOHN E. WEEKS, M.D., Lecturer on Ophthalmology and Otology, Bellevue Hospital Medical College, New York. Being Volume 10 of the Students' Quiz Series, edited by BERN B. GALLAUDET, M.D., Demonstrator of Anatomy, College of Physicians and Surgeons, New York; Visiting Surgeon, Bellevue Hospital, New York. Pocket-size 12mo., 218 pages, with 89 illus. and 2 full-page plates.

This, the author says, is a digest of the best and latest works on these specialties, and truly it is so, only the hard and dry facts being left by the process. It is a very favourable specimen of this class of publication which aims at reducing the various branches of medicine and surgery to their smallest dimensions and rendering them more easy of assimilation, in fact at providing a royal road to learning. For the student cramming for an examination or any practitioner who is satisfied with a smattering of his subject they are just the thing, but they have no place in the library of any one who has a true love for his profession.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, November 25th, 1892.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

New Members.—Drs. H. D. Hamilton, N. D. Gunn and J. G. Adami were elected ordinary members.

Dislocation of the Eleventh and Twelfth Dorsal Vertebræ.—Dr. ARMSTRONG brought before the meeting a man upon whom he had operated for this injury. Last September, the patient while driving under a gateway was doubled up between the top of the gate and his load. On entering hospital on examination a distinct interval of one and a half inches could be felt between the spines, just as if one had dropped forward. There was no paralysis but marked pain and hyperæsthesia, patellar reflex and ankle clonus absent, and no loss of control over the sphincters of the bowel or bladder. On the third day (the patient having up to that time refused to allow anything to be done), he was etherized, and after an unsuccessful attempt was made to reduce the deformity, Dr. Armstrong cut down and found that the articular processes of the eleventh vertebra instead of being behind the twelfth had slipped up and become caught, but on bending the man forward he managed to get them back into place. The immediate result was the relief of the pain and hyperæsthesia, but the patellar reflexes are still absent. He had last summer met with a similar case in which on failing to reduce the deformity he had cut down, but found a fracture with injury to the cord. Shede has reported a number of cases and recommends cutting down and finding out the exact condition; if the cord is much injured nothing can be done, but if spicules of bone are removed a better result may be expected than if they were allowed to remain.

Dr. JAMES BELL emphasized the necessity of early operation in such cases. Experience has shown that not infrequently pressure may be removed and the integrity of the cord restored, while if left alone softening would follow. He does not even despair of cases in which there is extensive injury. He had operated upon dogs and found that the cord can be stretched, but suturing is almost impossible on account of the soft structure. Prof. Maydl, of Vienna, has been making similar experiments, but his reports are not favourable. He (Dr. Bell) thought that it is just as bad surgery to leave such a case to nature as it would be to leave a case of intestinal obstruction.

Excision of the Wrist.—Dr. **Armstrong** presented a man from whom he had removed the wrist joint for tubercular disease. The case was instructive as illustrating the amount of motion that can be obtained, flexion and extension are well performed, and the hand is not in the least œdematous. All the carpus, except the pisiform bone, the ends of the radius and metacarpal bones were removed, but unfortunately the disease has gone on in the pisiform bone and it will have to be removed.

Multiple Aneurism; Aneurism of Superior Mesenteric; Abdominal Aórta; Right Subclavian and dissecting Aneurism of Aorta; Cirrhotic Kidneys.—**Dr. Finley** exhibited the specimens from a case of multiple aneurism. The subject was a female, aged 48 years, rather thin, much blanched and with slight œdema of the lower extremities. A considerable quantity of partially clotted blood was found in the peritoneal cavity. There was an aneurism of the superior mesenteric artery about an inch from its origin, lying behind the pancreas, third portion of the duodenum and the mesentery. On section the wall of the vessel was surrounded by recently clotted blood, bounded by the above named structures and communicating with the peritoneal cavity by a small opening on the right side of the mesentery. A true aneurism of the superior mesenteric artery was thus formed which had evidently recently ruptured, first into the surrounding structures and later into the peritoneal cavity. A small sacculated aneurism of the abdominal aorta arose just to the left of the cœliac axis, and was lined with laminated decolorised fibrin. A dissecting aneurism forming a firm, solid mass in front of the thoracic aorta and alongside the œsaphagus arose an inch above the cœliac axis and passed up as far as the bifrucation of the trachea, where it terminated in a blunt conical end. This mass was traversed by an irregular channel containing blood; its wall was formed of a distinct layer formed by the outer coat of the aorta and was lined with a reddish-colored thick adherent layer of fibrin. A fourth aneurism was found on the anterior wall of the subclavian artery an inch in diameter and lined with a thick layer of laminated decolorised clot.

The aorta presented a few gelatinous raised plaques, but no calcareous change. Both kidneys were small, the right weighing 110 grams and the left 100, and presented the microscopic and macroscopic appearances of fibroid change. The heart weighed 350 grams. The left ventricle was thickened, the anterior papillary muscles transformed into a fibroid mass, and the coronary arteries showed a few irregular areas of atheroma. The other organs were normal. The brain was not examined.

Dr. Shepherd, who had had the patient under observation, gave the following history: For two years she had been troubled with dyspeptic symptoms, with gradual weakness and emaciation. Six weeks before admission she began to suffer from abdominal pain of a continuous gnawing character and occasionally referred to the back. Three weeks later she suffered from persistent vomiting.

On admission, August 15th, somewhat emaciated, muscles small and flabby. Vomits frequently without any relation to taking of food, and with relief to pain. A pulsating tender mass about the size of a hen's egg is felt two inches above the umbilicus and half an inch to the right of the median line, and readily moved from side to side. Urine normal.

There was a clear history of syphilis, alcoholism and rheumatism.

An exploratory incision was made by Dr. Shepherd on August 17th, and on pushing the finger well down toward the vertebral column a pulsating sessile aneurismal tumor was found in front of the aorta and evidently connected with the superior mesenteric artery. The abdomen was closed and good union took place on September 5th, the pain which continued after the operation greatly increased and the tumor increased in size. Death took place rather suddenly on September 11th, the patient becoming blanched and pulseless.

Dr. Shepherd remarked that he had refrained from tying the artery above the aneurism owing to the probability of causing gangrene of the intestine, as this vessel supplies all the small intestine and half the large. He also remarked on the rarity of aneurism of the superior mesentric artery, the usual vessel affected being the cœliac axis. The other aneurisms had not been recognized before death.

The PRESIDENT remarked that it was most fortunate that Dr. Shepherd had refrained from tying the mesenteric artery. Last summer he had seen two cases of plugging of the mesenteric arteries followed by gangrene of sixty-nine inches of the bowel, death having occurred in thirty-six hours. The diagnosis had been peritonitis.

Double Nephro-lithotomy.—Dr. JAMES BELL exhibited calculi and gave the following history :—

A. B., aged 45, was admitted to hospital in January, 1892, for calculous pyelitis of the right kidney and stricture of the deep urethra. The stricture was first treated by internal urethrotomy, and the right kidney operated upon in March, 1892 (nephro-lithotomy), a large branched calculus being removed. The patient recovered satisfactorily without bad symptoms, but the urine never became quite clear, and after the wound had healed and the patient allowed up the amount of pus in the urine increased. Pain in the bladder was complained of, but exploration failed to discover any stone. The patient was discharged in May, but returned in October weak, pale, ill and feverish, with evident pyonephrosis of the left kidney. The kidney was opened, six medium-sized calculi, with much calcareous debris and many fragments of stone removed with nearly a pint of pus. The operation was not prolonged nor difficult and the patient was sent back to the ward in good condition. For fifty-four hours after the operation not a drop of urine was secreted; the symptoms were great restlessness, pallor, vomiting, headache and a small rapid pulse (150); the general symptoms resembled those in a patient suffering from exhausting hemorrhages. The loins were cupped frequently, normal saline solutions infused beneath the skin daily and hypodermic injections of Tr. Digitalis given from time to time. From the time of the first secretion of urine the general symptoms improved and within a week the patient's condition was excellent, and now, a month after the operation, he is passing daily 40 to 50 ounces of clear urine, containing only a trace of albumen, and the wound is healing rapidly.

The noticeable features of the case are prolonged suppression of kidney function and the spontaneous product of stones in the kidneys. Double nephro-lithotomy for calculous pyonephrosis followed by recovery is also comparatively rare.

Dr. **Shepherd** said that this case showed that we should not too hastily remove a kidney, for if this man had had his kidney removed last winter he would not have lived, as the remaining kidney could not have performed its function for the whole body.

Dr. **Smith** asked if ether had been the anæsthetic used, as he understood that suppression of urine often follows the use of ether, he had never heard of such an occurrence after the use of chloroform.

Dr. **Bell** said that he had never observed suppression after ether, but there are numbers of deaths after operation on the urethra where chloroform had been used.

Dr. **G. G. Campbell** had never seen suppression after ether, in fact he had frequently seen an increased amount of urine.

Excision of the Wrist.—Dr. **Bell** exhibited the forearm and hand of a woman aged 44, whose wrist he had excised in January, 1887, for tubercular disease; he had removed all the bones of the wrist joint except the pisiform; the result was quite a stiff wrist, not nearly so good as in Dr. Armstrong's case. Dr. Springle had obtained the specimen from the dissecting room.

Ovarian Abscesses.—Dr. **Armstrong** exhibited the specimens and said that the patient from whom they were removed had given a history of recurring attacks of peritonitis for ten years, and for the last year has been in bed; she came to the hospital with her pelvis full of fluctuating masses. The chief point of interest is the extreme degree of adhesions between the intestines. There was free oozing, after operation there had been no obstruction to flatus or faeces, and the patient made a good recovery.

Dr. **Smith** had been at the operation and observed the great difficulty in detaching the adhesions. This condition is set up in many young women by gonorrhœa, and such cases should not be left long with the pus leaking from the tubes. He had an opportunity of re-opening a patient in whom he had used the thermo-cautery for bleeding, and eight or ten feet of the intestines could be lifted out in a mass. Yet that patient is in good health and her bowels are regular.

HAMILTON MEDICAL AND SURGICAL SOCIETY.

CASES REPORTED BY ARCH'D E. MALLOCH, M.D.

Mr. Chairman and Gentlemen:—Some months since I brought before you several cases of surgical knee-joint affections, and thinking that a continuation of the series might be of interest, report to-night the cases, other than those of simple synovitis that have occurred in my practice since then, exhibiting the patients that you may judge for yourselves of the results. In addition I will report a case of compound fracture of the thigh and show you the patient.

CASE I.—*Gelatinous degeneration of the knee-joint; tumor albus; tubercular arthritis: incised and scraped; recovery; movable, useful joint.*

J. M., aged 13. Seen with Dr. McCabe on the 8th April, 1891, suffering from disease of the right knee.

Confined to bed, suffering from pain in the joint, chiefly at night, and with "startings" of the limb; is feverish and has little or no appetite. The joint is much swollen, slightly flexed and rigid; the condyles of the femur are expanded, but the swelling is chiefly due to thickening of the synovial membrane; in two places, one above and one below the patella, the swelling is prominent and soft, and gives the impression of fluctuation; the limb is much atrophied. The lameness and swelling have been coming on for some months. Father and mother living; a brother died of phthisis three years ago. Limb to be thoroughly scrubbed and washed and wrapped during the night in a towel wrung out of a 1 to 1000 corrosive sublimate solution.

9th.—Under chloroform a free incision was made into the bulging swelling above the patella; on pressure being applied a yellow-greyish jelly-like mass three inches in diameter and three-quarters of an inch in thickness was forced out of the wound; additional incisions were made on each side of the patellar ligament, and through them the bluish-grey thickened synovial membrane was thoroughly scraped with a sharp Volkman's spoon and with the finger-nail, and the *debris* removed by flushings of 1 to 1000 sublimate solution. Finally the joint was filled with a 10 per cent. mixture of iodoform and glycerine, and then thoroughly moved to bring the mixture into immediate contact with all its recesses; drainage tubes were inserted, the wounds covered with Lister's protective and the joint enveloped in a large and thick moist sublimate gauze dressing. Limb supported on a posterior straight splint.

10*th*, 10.30 a.m.—Temperature 99° ; dressed ; skin blistered from the dressings; joint syringed with a 1 to 1000 sublimate solution; tubes replaced; skin powdered over with boracic acid powder, and a well squeezed out moist sublimate gauze dressing applied. 9 p.m., temperature 101°.

12*th*, 11 a.m.—Temperature 98 2-5°. Very little discharge on dressings. A permanent posterior splint was applied with paraffine bandages.

The case was subsequently attended to by Dr. McCabe.

July 27*th*.—Had been using the limb for some time; the leg can be almost completely extended and can be flexed to a right angle; the limb is almost as large as the sound one; he engages in the games of the other boys and says that his general health is perfectly good.

CASE II.— *Very severe injury to knee from circular saw. Recovery, with perfect movement.*

July 20*th*, 1891.—J. V., aged 14, a patient of Dr. McGregor of Waterdown. Seen between two and three hours after the accident. Joint completely exposed by an oblique wound, from the inner side upwards and outwards, with serrated edges extending from side to side in front, made by kneeling on a revolving circular saw. Patalla sawn through transversely a little below its middle; the anterior half of the inner condyle cut through vertically and only attached above to the soft parts by a narrow strip of periosteum; there is also a short superficial cut with serrated edges at the level of the tibial tuberosity; no hæmorrhage. Dr. McGregor had removed one or two small pieces of bone which he had found lying loose in the joint. After thorough cleansing the almost separated portion of the condyle was removed, the patella drilled and sutured with thick prepared Chinese twist, and its sheath stitched with catgut and the skin wounds with silk sutures, after the insertion of a drainage tube on each side at the most dependent points of the exposed surface; wounds dressed with protective and moist gauze and the limb supported on extemporized Watson's excision splint, made from Gooch's splinting, which was kept in place by paraffin bandages; limb placed in a Salter's cradle.

21*st*, noon.—Rested pretty well; had complained of some pain in abdomen and on outer side of joint; pulse 86, temperature 100 1-5°; dressings saturated with bloody serum; wounds quite quiet; redressed; case left under Dr. McGregor's care.

Aug. 4th.—Dr. McGregor reports by letter: "My patient is doing well; there is practically no discharge, except a little blood at the corners of the wounds which were left open; there has been no pus or smell and lately no puffing or swelling; there never was any discharge from the first from the drainage tubes. I have been shortening them little by little and one is now away; the stitches are all out; wounds have united by first intention. Pulse kept about 76; temperature 98° to 99°; sleeps well and eats well, but always complains of having had a little pain during the day."

Aug. 16th.—Seen to-day. Wounds healed, with dry patellar suture hanging out of the middle of the scar; limb still in splint. Early this spring (1892) he walked into Dr. McGregor's office with a friend, and at first I did not know which was the old patient. He said that he kept pulling at the ligature every day till it came away two months or so after the accident.

CASE III.—*Ruptured ligamentous union of patella; Lister's operation; recovery; good result.*

A. D., aged 45, admitted into the City Hospital 31st December, 1891. In September last she fractured her right patella; result, ligamentous union; about the first of November she began to go about and to do her work. A week since she fell again and hurt the same knee, rupturing the ligamentous band of union.

Jan. 13th.—All effusion having disappeared, Lister's operation by vertical incision was performed; it was found that the ligamentous band had separated from the lower fragment; after paring the bones the pieces were separated by fully an inch; ends of wire brought out of centre of wound; a drainage tube was introduced into the most dependent portion of joint on its outer side; limb dressed with protective and moist sublimate gauze and then placed on a Watson's excision splint and bound to it with paraffin bandages.

Jan. 21st.—Temperature has been normal since the 14th. Dressings removed for the first time and found quite dry where soiled over the wound and the drainage tube; stitches and drainage tube removed; wound healed.

22nd.—Leg below knee œdematous without flush; temperature natural; splint and dressing removed, but nothing was found to account for the œdema excepting an erythematous blush where the skin had been covered with the moist gauze, Boracic acid powder and boracic acid gauze substituted; splints re-applied; 25th, temperature natural.

Feb. 22nd.—Under chloroform free movements of joint made. March 10th, went home to her work with fairly good movement.

April 5th.—Wire removed; has been working as usual since leaving the hospital.

Dec. 3rd, 1892.—Flexes knee to more than a right angle.

CASE IV.—*Periostitis of patella; abscess with loose necrosed patella; useful joint.*

July 14th, 1892.—D. G., aged 11, a patient in St. Joseph's Hospital, under Dr. McGillivray's care. Right knee swollen and red, chiefly on anterior and outer aspect, fluctuating and with a small ulcerated spot from which a thin serous discharge was escaping. History of Traumatism some months since. The appearance suggested a superficial suppuration rather than synovial. Knee to be thoroughly washed as usual.

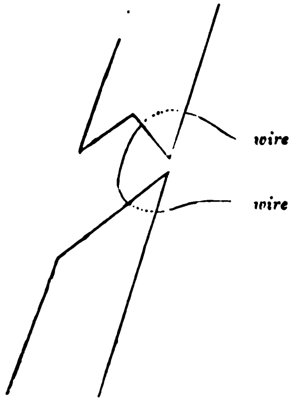
July 15th.—Abscess opened and the loose necrosed patella which I have here was turned out; sac thoroughly scraped and washed out with 1 to 1000 sublimate solution; dressed in the ordinary way and supported on a posterior splint.

July 23rd.—Dressed for first time; wound superficial, cicatrising; dressed, not seen again.

Necrosed bone is a shell the shape of the patella, one inch long by three-quarters of an inch in breadth and three-eighths of an inch in thickness.

CASE V.—*Compound fracture of the thigh; wired; recovery; useful limb.*

June 12*th*, 1892.--J. McN., aged 12, hospital patient. Compound fracture of left femur, with small wound on outer side of thigh, about its middle, from which blood is escaping; three hours have elapsed since he fell from the tower of St. Lawrence church. Fracture had been set by Dr. White and a temporary splint applied Patient suffering considerably from shock; a six inch incision was made on outer aspect of thigh, having the original wound about its middle, two loose pieces of bones were removed; the ends of the bones presented this appearance:



The end of the upper fragment was notched, that of the lower sloped to a point from below upwards and outwards. Wishing to expedite the proceedings as much as possible, and believing that the periosteum would make up for the lost bone, I drilled the upper fragment from the outer side to the summit of the notch, and the lower fragment about the same distance from its point; the wire passed through the openings, when shouldered and locked, held the bones firmly together; wire brought out of original wound. After stopping all the bleeding and washing the wound thoroughly with 1 to 1000 sublimate solution the wound was stitched with deep and superficial silk sutures, excepting the original wound. Wound dressed with powdered iodoform, protective and moist sublimate gauze, snugly held in position by a moist sublimate gauze bandage; the thigh and upper portion of the leg was then thickly padded with sterilised cotton wool; finally plaster of paris bandages were applied from the toes to the waist. When placed in bed a long splint was applied to the sound limb.

A simple fracture of the right radius was put in anterior and posterior splints, but good apposition was not obtained. Between this date and the 1st of July, when it was taken down for the first time, the highest temperature recorded in the chart was on the evening of the 19th, when it was 101°; on the 21st of June it fell to normal and remained subsequently at that. During all these days the lad never complained of his thigh.

July 1st.—Plaster cast at upper portion of thigh soft and giving off a urinous odour; dressings removed; thigh wrinkled; wound perfectly quiet; the discharge had soiled to outermost layer of cotton wool. Re-dressed and splints applied as before.

July 24th.—Since last dressing temperature and pulse have been normal. Wound exposed and silk stitches removed; considerable callus but union not firm; dressings and splints re-applied.

Aug. 20th.—Splints taken off and wire removed; bone solid; splints re-applied.

A week or ten days subsequently he was allowed to go about the ward on crutches, wearing a patten on his right boot.

Sept. 7th.—He slipped when going down stairs and hurt his thigh.

Sept. 9th.—The plaster was removed and it was found that he had re-fractured the bone. Put to bed and splints re-applied.

Nov. 1st.—Splints removed; bone solid; considerable callus; allowed up; passive motion to knee, which is stiff.

Nov. 14th.—Able to run about the ward; very slight motion at knee-joint.

Nov. 28th.—Learning that chloroform was to be administered and the knee-joint loosened he ran out of the Hospital.

NEW INSTRUMENTS.

SAMWAYS' TOURNIQUET CLIP.

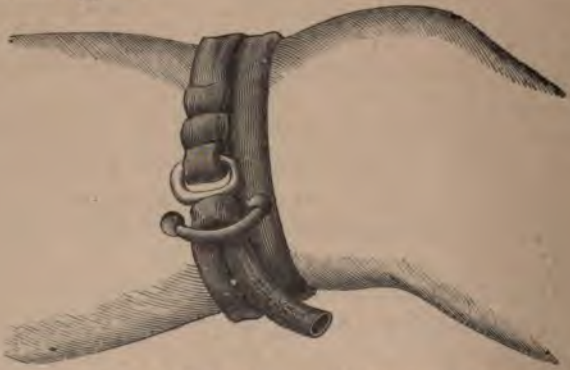
Two new forms of fasteners for use with india rubber Tourniquets have lately been patented by Messrs. Down Bros., instrument makers of St. Thomas's St., London, S. E.

They are known as Samways' Clips, after Dr. Samways, of Guy's Hospital, the inventor.

The simpler is shaped like an anchor and is of about an inch in total length. It differs from an anchor in that the ring is oblong, with its long axis transverse to the shank to which it is rigidly fastened.

There is no stock and the free ends of the flukes are knobbed instead of spade-like.

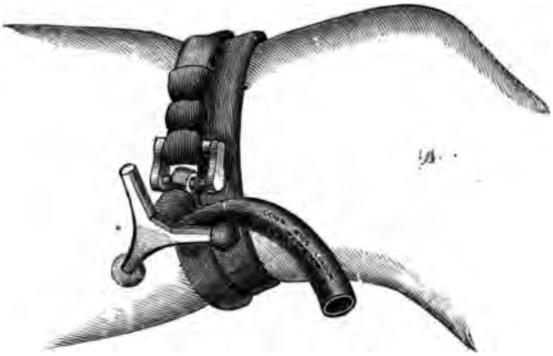
To apply the tourniquet the clip is held in one hand and the stretched rubber is carried once, twice or thrice round the limb, then passed beneath one of the anchor flukes over the shank and back beneath the other fluke and let go. The accompanying diagram illustrates the "Anchor Clip" tourniquet when applied.



The second form of Dr. Samways' clip is made to resemble a grapnel, and has three flukes instead of two.

The flukes are set at an angle of 120° to one another, and are slightly inclined towards the shank. The ends of two of the flukes are knobbed. The grapnel ring is oblong as in the anchor clip model, and the rubber is similarly attached permanently to it. The ring, however, is not rigidly fixed to the shank.

To apply the Grapnel tourniquet the clip is held in one hand with the two knobbed flukes pointing down towards the limb. The stretched rubber tubing is then carried once, twice or thrice round the limb, passed beneath one of the knobbed flukes over the shank and out beneath the other knobbed fluke and let go. The fastening may be rendered still more secure if the rubber, instead of being led out beneath the second fluke, is passed, as in the diagram, further round the shank and brought up between the first fluke and the rubber.



The advantages claimed for these clips are:

1. They are small and light.
2. They are simple and cannot get out of order.
3. They are very quickly applied or removed.
4. The tighter the rubber is applied round the limb the more securely the clip holds it.
5. The clip does not cut the rubber.
6. The clip fastens equally well at any point along the length of the rubber.

Selections.

Two Practical Suggestions for Analysts of Urine.—I have devised the following formula which can be used in the intervals between the estimations in well marked cases of diabetes : Divide 880 by the number of ounces of urine passed in twenty-four hours. To the result add 1,000, and substract the sum from the specific gravity of the urine. The result will be the number of grains of sugar to the ounce of urine. . The primary number, 880, may be for greater accuracy, altered to suit exactly individual cases as determined by experiment. For example, suppose a patient to pass 100 ounces of a specific gravity of 1·030. $\frac{880}{100} + 1,000 = 1,008.8$. $1·030 - 1,008·8 = 21·2$. The patient has about 21 grains to the ounce. Now, if in this individual case, the result was found to be too far from the truth, a suitable number would be substituted for 880, which, though the best co-efficient for general use, yet is not so good for particular cases as one that may be determined by experiment.—*Louis F. Bishop, M. D., in N. Y. Med. Journ., Oct.* 8, 1892.

Personal Recollections of Delirium.—In a paper on "Sleep, Dreams and Delirium" (*Glasgow Medical Journal, October 8th*), Dr. Joseph Coats points out certain differences between dreams and delirium. In dreaming the activity of the nervous centres, occurring during sleep, produces little or no impression upon the consciousness, but delirium occurring when a person is awake often produces a marked retention of activity in the centres of consciousness. The consciousness may be so dulled that the phenomenon may approach dreaming, but this he believes to be exceptional. In delirium, what passess through the mind may be retained there and believed to have actually occurred ; in dreaming, this practically does not happen. The author quotes his own experience when attacked with delirium, and gives at length a letter recently from Dr. W. T. Gairdner, describing an account of his experience in the delirium of typhus fever.

While still a medical student Dr. Gairdner had a severe attack of typhus fever, being for some time delirious, then comatose. At the time, he was about to write a graduation thesis on the subject of "Death," and this subject was very prominent during the delirium. Although fully aware that he was soon likely to die, it did not alarm him at all. He remembers a feeling of unrest, dissatisfaction and apparent anxiety about something that had got to be done and could not. A little later he became convinced that he was dead, but this fact did not in the least distress or horrify him; he had, on the contrary, a curiosity to witness his own autopsy, and he retains a most vivid impression of standing by his own *post mortem* examination in the theatre of the hospital with much interest in the question whether ulceration of Peyer's patches would be found in the intestines or not. He also retained during his convalescense a vivid impression of having seen his remains recently buried. After the coma which followed this delirium had passed, a delirium of a more quiet form came on in which the sense of distressing unrest had entirely disappeared. The last impression left upon his mind before recovering normal consciousness was a vision of the resurrection. As convalescence progressed it seemed to him that he had acquired a new faculty, that of dreaming at will. He could for some time together give way to these visions in perfect comfort and with ecstatic feelings of enjoyment. The strictly intellectual power was being recovered in the very midst of these voluntary visions, so that he could either shut his eyes and dream or open them and think as he pleased. The thesis which he had begun to think over, but had not written before his sickness, arranged itself in his mind during his convalescence and was subsequently written out upon the plan which he had devised and completed in moments alternating with his visions of Elysium. He concludes by saying that this thesis could not have been very bad after all since it won him a gold medal.

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SCIENTIFIC INVESTIGATION OF INFECTIOUS DISEASES.

The shortcomings of the Montreal Health Department have been strikingly brought out by a recent outbreak of typhoid fever among the customers of a certain milkman resident near the city, and who supplied about sixty families in Montreal. Within the space of three months nearly thirty cases, three of which proved fatal, developed among his customers.

In November, 1892, two severe cases of typhoid fever, one of them fatal, occurred in a family on Bishop street. As the two persons affected were the only members of the family who drank milk, the suspicion of the attending physician was naturally directed to the milk supply as the probable means of infection. The City Health Department were promptly notified on November 14th, both of the occurrence of the cases and the suspicion about the milk, and were called upon to investigate and take steps to prevent the disease from spreading. In spite of this plain warning the Health Department made no investigation, and remained in unruffled tranquility while case after case appeared among the families supplied with this milk. It must be admitted, however, that the Montreal Health Office was not aware for some time of the extent of the outbreak, owing to the fact that many of the cases were not officially reported by the medical men attending them. On February 15th, 1892, although over twenty cases existed, only six had been reported at the Health Office! As the health officers rely for their information about the occurrence of infectious diseases on the physicians in attendance, it is the plain duty of every medical man attending a case of infectious disease to report it to the authorities as soon as the diagnosis can be made, and a penalty is fixed by law for each case where this duty is neglected. Whether the practitioners who neglected to report their cases suppose that typhoid is not an infectious disease, or whether they neglected reporting them from a feeling that the information would be received at the Health Office as a matter of purely historical interest, to be used in compiling statistics, and that no practical outcome would result, we do not know; but it certainly is impossible for any health office, however much in earnest, to successfully combat infectious disease, unless the medical attendants report the cases promptly.

We notice a tendency among many of the best practitioners in Montreal to comment upon the alleged incompetence of the Health Department; but those in charge of the Department have difficulties to fight against which are not appreciated by the outside medical profession. The Montreal Health Office, to-day, is apparently run more for the benefit of the city scavenger than for that of the city. An enormous sum of money, sufficient to defray the scavenging expenses of a city three times the size of Montreal, is annually paid out; and yet the scavenging thus contracted for at three times its fair value is not done. Civic corruption, boodling, and ward politics hamper the executive officer at every turn. It would be better, in the public interests, if our physicians, instead of standing aloof and deriding the Health Department, would endeavour to aid the officials in every way, and co-operate with them heartily in anything tending to get rid of infectious diseases.

When the City Health Office was organized some years ago, one medical officer was deemed sufficient. Under him are placed a number of subordinates, but these, except in the case of the public vaccinators, have no medical training. When investigations have to be carried on, or inquiries made, the Medical Health Officer, not having at his disposal a physician, is obliged to entrust them to sanitary policemen, who know about as much of sanitary matters as other policemen or members of the laity. The public do not seem to understand that in a city the size of Montreal, at least three or four assistant medical health officers are absolutely necessary to see that the instructions of the Health Officer are carried out and to make investigations, for which good laboratory equipment is indispensable. The people of Montreal have been expecting one man to do all this, and grumbling because he does not perform the impossibilities.

Even with all the support which it is in the power of the medical profession to render the Montreal Health Office, that any material improvement is likely to ensue in the near future, is more than doubtful; but, fortunately for us, the sanitation of Montreal does not end with the City Health Offices. The jurisdiction of the Provincial Board of Health comprises, when necessary, the city as well as the outlying country. When scientific investigations are necessary, they would be better entrusted to the Provincial Board of Health than to the city authorities. In the United States, the various State Boards of Health exert a great influence over urban sanitation, even in the case of large cities having fully organized health departments.

In the present outbreak of typhoid, the benefit of looking to the provincial rather than the city authorities, in the matter of investigation, seems very clear. It has been shown that typhoid occurred in 1891, in St. Laurent, where the suspected milk came from; though the medical men there state that they did not meet with any cases last autumn. The milk from this locality, however, gives rise to cases in Montreal nearly a year after the local outbreak at St. Laurent has ceased. Could the typhoid at St. Laurent in 1891 have been officially recognised by the provincial authorities, and its possible effects on the milk supply of the city borne in mind, radical improvement in sanitation might have been carried out in the interval, and the city protected. To properly investigate outbreaks of typhoid fever and cholera, chemical and bacteriological examination of the water supply, etc., is indispensable, for it is only by this means that the causes can be traced to their source. The city is innocent of any proper equipment for sanitary investigations, and milk analysis by the city means nothing more than determination of the percentage composition of the supply, so that adulteration can be detected. Adulteration of milk, though objectionable from a business standpoint, does not produce infectious disease, and on the other hand the milk supplied in the case to which we refer, though evidently dangerous to health, has been shown by chemical analysis to be above reproach as far as richness in quality is concerned.

This absence of facilities for investigating the sanitary conditions of the suburbs obviously exposes the city to a great danger when infectious disease exists in the outlying country through contamination of the food supply.

The fact that the highest European and American sanitary authorities unite in prophesying that a widespread cholera epidemic during the present year is all but inevitable, makes the lack of appliances for sanitary investigation at the present time a matter for deep regret. It is known that some cases of cholera are sure to pass even the best of seaport quarantines in times of epidemic, and the best safeguard for a country (apart from that personal care and cleanliness only to be expected of the intelligent few) lies in providing for the prompt detection, isolation and disinfection of cases. Timely disinfection and isolation, however, can only be carried out where the means for prompt and certain diagnosis are available. By modern bacteriological methods the diagnosis of cholera can be made with certainty in the course of a few hours, and the information so gained, if properly made use of, enable the sanitary authorities to detect and deal with outbreaks of cholera at their commencement, when they can be restricted.

As there is very little prospect that the city will make any attempt to modernize its methods, it is fortunate that we possess in the Provincial Board of Health a body which, by the promptness and energy with which it has dealt in the past with actual and threatened epidemic, has secured the confidence both of the Government and the people of this Province. In the case of the present outbreak, immediately upon being notified the Board commenced a thorough investigation of all the circumstances connected with it and ordered the necessary analysis to be made, but unfortunately the Board was not notified that anything was amiss until three months after the disease had begun to attract attention in Montreal. What is necessary to increase the efficiency of our Provincial Health Office (which has done wonders considering the slender resources at its disposal) is (1) more prompt notification of the occurrence of infectious diseases, and (2) improved facilities for investigating them.

An act passed at the recent session of the Legislature for the securing of vital statistics will in the future keep the Board well informed on the occurrence of infectious diseases, and we are glad to learn also that recommendations of the Board as to the necessity of improved means of investigation are receiving favorable consideration at the hands of the Government and are likely to be carried out in the near future. We feel confident that with proper facilities for investigation, the sanitary work of the Provincial Board will soon be on a par with that of any other similar organization. At the same time we cannot refrain from calling attention to the necessity of immediate preparation for the great danger which threatens us upon the opening of navigation and it is necessary to make some provision, however imperfect, for commencing work without delay. That the authorization and means for this work will be denied at such a critical time is, we trust, out of the question.

REPORT ON THE SANITARY STATE OF THE CITY OF MONTREAL FOR THE YEAR 1891.

This report has just come to hand and in it we find a great deal that is interesting and not a little that is curious. On the whole it is a most satifactory report and shows the health of the city to be good. The death rate is lower than in previous years, being 24.24 per thousand, while the birth rate is increasing, there being over 26 births daily, or 43.87 per thousand, nearly double the deaths. Our death rate still exceeds that of London by 2.8 and is less than that of New York by 1.8 per thousand. Of the 5,391 deaths 515 were from phthisis, 332 from pneumonia, and 270 from bronchitis, a total of 1,117 from diseases of the lungs, while diarrhœal diseases are accountable for 862. The mortality under five years of age was 57.78 per cent. of the whole, and 1296 of the deaths were of infants under six months, truly a terrible commentary on our system of foundling institutions. Some of the people, however, having survived the dangers of infancy, lived to a good old age, 267 being between 70 and 80, 167 between 80 and 90, and 35 over 90 years of age. The season of year at which most deaths occur is, of course, the summer months, June and July, with the death rate somewhat less for August. Next to these months come December and March. The number of deaths is nearly the same for the two sexes, with a slight preponderance of males.

A register for the civil registration of unbaptised children was inaugurated and 162 births were thus registered. Why should not registration of birth be compulsory? Then a check would be kept whether vaccination was performed or not, and the number of unvaccinated children would not reach its present total for the year of 14,354. However, vaccination has been energetically carried out by the public vaccinators and has somewhat reduced this total. The question of a better system of disposal of the garbage of the city began to agitate the minds of the city fathers in August and a committee was then appointed to enquire into the matter and gather information. At the time of writing no practical result has come of all this gathering of information, so probably the process is still going on. The garbage of the city continues to be collected in the same perfunctory manner, and no proper system of incineration is carried out, most of the refuse being dumped on vacant ground. We are glad to note that the barbarous practice of cutting off the water supply for non-payment of taxes has been discontinued. This is a distinct advance in sanitation, for the old method was most inhuman and should never have been sanctioned. Imagine the state of a house with a water-closet and several sinks, but no water; the traps are soon emptied by evaporation and become merely ventilators for the sewers. What good is the endeavour to prevent the spread of diphtheria, typhoid and kindred diseases by isolation and disinfection when sewer gas is allowed, nay, encouraged to pour into the dwellings of people already, perhaps, reduced by poverty and want until their powers of resistance are no longer able to cope with the diseases arrayed against them.

The table of contagious diseases according to ages is very interesting. It shows that among the 230 cases of diphtheria reported none were under six months nor over 50 years of age, two were under one year, 88 were between one and five, and

84 between five and ten; of scarlatina there were 217 cases and 83 of these were between one and five and 82 between five and ten, only 14 were over 20; of 260 cases of typhoid, 80 were between 10 and 20 and 88 between 20 and 30; while 154 cases of measles were between one and five and 183 between five and ten, out of a total of 466. Although much has been done to improve the health of the city much still remains to be done, and we would exhort the officials, in spite of obstacles, to be not weary in well-doing.

The report is carefully compiled and is well put together, but it loses much of its value by being issued a year after the record closed.

THE GOVERNMENT OF VENEZUELA AND THE PAN-AMERICAN MEDICAL CONGRESS.

Senor P. Ezequiel Rojas, the Venezuelan Minister of foreign Affairs, has forwarded on behalf of his government, through the U. S. *Charge d'Affaires* at Caracas, a formal acceptance of the invitation issued pursuant to the joint resolution of the United States Congress to the various governments of the Western Hemisphere to send official delegates to the Pan-American Medical Congress. The selection of delegates has not yet been made, but the names will be forwarded at the earliest possible moment.

Obituary.

It is with deep regret that we record the death of Dr. Addison Worthington, of Clinton, Ont., at the age of seventy-four years. The Doctor, up to his recent and last illness, was actively engaged in the practice of his profession. Few men have had a greater love for their work than Dr. Worthington had for his profession. Partly educated in McGill University, in the days when Bruneau was Professor of Anatomy, Dr. Worthington always took the liveliest interest in all matters relating to the University. In matters concerning the progress of medicine, Dr. Worthington was an active supporter. The great success of the Huron Medical Association was mainly through his unwearied efforts. That the profession appreciated his worth is shown by his appointment to many leading positions, prominent among which was the Presidency of the Ontario Medical Association. Dr. Worthington is about the last of the medical pioneers of the Huron Tract.

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Original Communications.

NOTE ON ARSENICAL NEURITIS FOLLOWING THE USE OF FOWLER'S SOLUTION (ʒ4 31 ♏18).*

BY WM. OSLER, M.D., F. R. C. P., LONDON.

During the first few years of practice I was in the habit of using arsenic somewhat sparingly, but after the appearance of Bramwell's paper in 1877, on the use of this drug in pernicious anæmia, I began in the cases which came under my observation to use it more freely, and since that time in various forms of anæmia, in leukæmia, in Hodgkin's disease, and chorea minor I have used it in what might be called large doses. My rule has been to begin with two or three minims three times a day, and gradually increase the dose every four or five days until the patient took ten, fifteen or twenty minims of Fowler's solution three times a day. I preferred to see the physiological effects, either itching of the skin, slight œdema, an attack of vomiting, or diarrhœa. The quantity which will induce these symptoms varies in different individuals, and in the anæmia cases those who bear the drug best seem to improve the most rapidly. The largest doses I have given were in a case of pernicious anæmia, in which the patient had taken during his primary attack with the greatest benefit for several weeks twenty minims of Fowler's solution three times a day; and had reached in his relapse thirty minims three times a day, when at the end of a week he had an attack of itching of the eye lids, and œdema over the eye brows.

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* Read before the Johns Hopkins Hospital Medical Society, February 20th, 1893.

In the chorea minor of children, who, as is well known, stand arsenic well, it is a common experience to find that twelve and fifteen minims of the liquor arsenicalis may be given daily without ill effects. Until two years ago, though I had often seen the symptoms of saturation above referred to, I had never seen any serious toxic symptoms referable to the nervous system, but we had at that time in the ward a patient with pernicious anæmia who had taken for a long time large doses of Fowler's solution, and under its use had feelings of numbness and tingling in the feet and legs, which we thought might be due to the arsenic. This may not, however, have been so, since these advanced cases not infrequently have sclerosis of the posterior columns of the cord, in connection with which loss of the knee jerk and sensory changes in the legs may develop. I have repeatedly in my clinics and ward class talks referred to the apparent harmlessness, so far as my experience went, of Fowler's solution.

On October 25th, 1892, the patient before you was admitted to my wards with Hodgkin's disease, the cervical, axillary, and inguinal groups of glands being involved. Having had under observation for now nearly four years a case of this disease, which has been remarkably benefited by the prolonged use of Fowler's solution taken at intervals, we naturally placed this man upon the same drug. The details of his case, so far as they relate to the lymphatic disorder do not concern us. The arsenic was begun on October 27th, given as Fowler's solution, and gradually increased. He took it on the first occasion for ten days; it was then resumed on November 14th, and in two weeks the dose reached fifteen minims three times a day. Towards the end of November it was noted that his skin, which was naturally of a somewhat dark colour, had a much deeper tint, and that of the abdomen was very distinctly bronzed. Throughout the month of December he did not do well. The arsenic was stopped on the 19th, and begun again on the 27th. From the outset the patient has had that interesting feature in many cases of Hodgkin's disease, an intermittent pyrexia, and as may be seen by his last week's chart, the temperature rises every afternoon and evening to about 104°. The pigmentation seemed to increase throughout December. Twice during the first two months of his stay in hospital there was slight diarrhœa, which was attributed to the arsenic. About the middle of January it was noticed that he was tender to the touch, and walked somewhat stiffly. He is a Pole, speaking no English, and as there was no one in the ward to interpret for him, these symptoms did not perhaps at first attract the attention they deserved. The most striking feature at this time was the sensitiveness on pressure. The skin itself did not appear to be painful, but if, for example, the arm was grasped, or the pectoral muscle lifted, or the thigh pinched, he winced and tears came into his eyes. By the end of January he walked with much difficulty, and could scarcely go from his bed to the closet. He has naturally, in the course of his disease, wasted a good deal, but the legs seem to have become distinctly more flabby within the past two or three weeks. The knee jerks, which were present on January 10th, are now absent.

On February 2nd, Dr. Hoch reported the faradic excitability of the nerves of the leg was diminished, the galvanic also to a slight extent. In the muscles the diminution to both currents was more marked, and the contraction following the galvanic stimulation was decidedly slower and the anode, if not larger, was at least equal to the K. C. C. The muscular power in the arms is not so strikingly diminished, though the grasp is feeble in comparison with what it was. The hyper-sensitiveness of the muscles does not appear to be at all diminished.

Between the 27th of October, and the 10th of January, this patient took ℥4 ʒ1 ♏ 18 of the liquor potassæ arsenitis, equivalent to about 16½ grains of arsenious acid. During these seventy-five days there were fourteen days in which the drug was omitted. The marked sensory changes, the gradual impairment of muscular power, and the progressive character of the symptoms indicate very clearly the peripheral and neuritic nature of the affection; and though he has a chronic cachexia, in which, as in cancer or tuberculosis, neuritis might develop, yet it seems more rational to attribute it to the somewhat

The fœtus was a well nourished female which weighed about eight and a half pounds and had a large head. It was asphyxiated at birth but was speedily restored by artificial respiration. There were no marks of violence to be observed on the infant, although it was very carefully examined for them, as it had been exposed to such risks by the pressure of the forceps. The caput succedaneum was unusually large, while the cord was of normal size, length and consistence. The mother made an uneventful recovery, but unfortunately the result was different in the case of the infant.

On the afternoon of the second day, I was telephoned for by the patient's husband, and on arrival found that the child was bleeding from the alimentary canal. The hæmorrhage had started from the anus on the afternoon of the previous day, *i. e.* when the child was twenty-four hours old, and when I saw it blood was coming from the mouth, nose and anus, but none from the eyes, ears or vagina. From the anus, it oozed almost continuously, while it came in gushes from the mouth and nose, as if being vomited up. The blood was dark and venous looking and showed no tendency to clot. The mouth was carefully examined to ascertain whether or not there was any breach of continuity of the mucous membrane, as from a fractured jaw, etc., but none could be discovered. In one or two places at the sides of the head the scalp was bruised, and subcutaneous ecchymoses were present. The caput succedaneum was still large, and also very soft and fluctuating. No cerebral symptoms were discoverable, there being no paralysis, and the eyes re-acted normally. The child was somewhat restless and had not slept very well, but its suction power was very good and it took the breast readily. The mother said that the child changed colour very frequently and that the change was very rapid, it being livid one moment and the next one it would be quite pallid, but none of these changes occurred during my visit. The heart sounds were normal but weak, as was also the pulse. Examination of the chest and abdomen gave negative results, and there were no spots of any kind upon the limbs.

No treatment beyond the wrapping up of the limbs in cloths had been adopted before my arrival. I ordered the child to be given 5m. of fluid extract of hydrastis Canadensis every three hours, and to have cold cloths kept constantly applied to its abdomen. The case then passed out of my hands as I gave it up to the patient's regular attendant, but I heard that the child died a few hours after my visit. My reason for giving the hydrastis was to try and check any oozing that might have been occurring from the intestinal capillaries. It is greatly to be regretted that no *post mortem* examination could be obtained in this case, as it might have yielded valuable results, and would have shown any injury to the skull that might have been present.

The question now to be considered is, from what did the child suffer? Was the hæmorrhage due to injury, abnormality of some organ, such as the heart, or to some abnormal condition of the blood itself?

It can scarcely be attributed to a fracture of the base of the skull, as there were absolutely no head symptoms. If a fracture into the anterior fossa had occurred, you would have been pretty sure to have observed bleeding from the eyes, as well as some pressure symptoms, while if the fracture had taken place through the middle fossa, blood would have flowed from the ears.

A possible cause, in my mind, is some obstruction in the portal circulation, preventing the return of blood to the heart, and so causing an increased backward pressure. This proved to be too much for the gastric and intestinal capillaries which gave way in consequence. If this had been the only condition present, the blood would have coagulated as soon as voided as well as in the alimentary canal, whereas it showed but little tendency to clot. From this last fact, I should judge that there was some altered condition of the blood itself, such as you get in hæmophilia. In order that this case may be compared with one of true hæmophilia in the new-born, I will narrate the following case, reported in the *British Medical Journal* for March 21st, 1891, by Dr. Jardine, of the Glasgow Maternity

Hospital. The patient was delivered of her third child in January. The labour was normal with very little hæmorrhage. The child was weakly looking and had the appearance of being somewhat premature. In a day or two, it became somewhat jaundiced. On the eighth day, the cord separated and there was no hæmorrhage, but it began on the ninth. This was merely an oozing, which stopped soon, but in a day or two, hæmorrhages appeared elsewhere, and the child was noticed to bruise remarkably easily. Subcutaneous hæmorrhages also occurred. The child died on the twentieth day. The mother is not a bleeder, but her husband and other children suffer from frequent attacks of epistaxis.

In arriving at a conclusion regarding the causation of the hæmorrhage, in this case, one may be assisted by the following cases of a similar nature.

I. Emerson, in the *New York Medical Journal*, reported a case, the symptoms in which resembled those observed by myself. After an easy labour, a male child, weighing 8½ lbs., was delivered. At the expiration of thirty-three hours the infant began to spit blood and mucus, and kept on doing so at intervals for eight or nine hours. Before the blood came from the mouth, dark tarry material was voided from the bowels. Neither food nor medicine could be retained on the stomach, but was immediately vomited. Death took place in about five days. The post mortem revealed a dilated stomach and duodenum, the latter being enlarged as far down as the orifice of the common bile duct, where it became so narrow as to only admit a small probe. The immediate cause of the hæmorrhage here was a thrombus in the wall of the œsophagus, below which the mucous membrane was eroded.

II. A case of hæmorrhage from the bowels of a new-born child is reported by Brown i[illegible] *ritish Medical Jo*[illegible] September 14th, 1892. [illegible] t, whose se[illegible] tioned, was thirty-two hou[illegible] n blood [illegible] both mouth and anus, a[illegible] d to d[illegible] Hamamelis was give[illegible] recovering.

III. Bourrus mentions a case where an infant, eight days old, died from hæmorrhage from the intestine, but this was shown to result from an ulcer.

IV. Hodge relates a case in which hæmatemesis occurred in a child six hours old. Hazeline, in ten minim doses, stopped it and the child lived He attributes the hœmorrhage to a fracture of the base of the skull, but, if that was the case, hazeline could scarcely stop it.

In three of the above four cases, the hæmorrhage took place from the alimentary tract, two recovered and two died. Once it was due to an intestinal ulcer, once the cause was unascertained, and once it was due in some way to stenosis of the duodenum. I am inclined to link the case which I have to day reported to this latter, as they possess several features in common. Emerson says that dark, tarry, grumous material was voided from the rectum before the blood appeared at the mouth as in my own case, and in both it was voided from both mouth and anus at intervals. Although the child was apparently well developed and healthy, I am inclined to think that there was some mal-development of some one or other of the internal organs, and that it was not a case of true hæmophilia. As to whether or not the calcareous material in the placenta interfered with the proper interchange of substances between the fœtal and maternal blood, and so produced a condition of the blood which was unfavourable to its clotting, I would not care to express an opinion, but would like to hear what some of the gentlemen present think upon the subject.

A FEW NOTES ON APPENDICITIS.*

By G. McDonald, M. D., Calgary, Alberta, N. W. T.

Our knowledge of the pathology and treatment of appendicitis has been of such recent growth that I trust these few notes, with the history of some interesting cases in practice, may not prove unacceptable to the members of the association.

The literature on this subject has of late become so extensive, witness the accumulating mass of matter appearing weekly and monthly in our periodicals from the pens of scientific authors, as to make the general practitioner of junior years rather hesitate in advancing any further lines in this direction; yet, as each case of appendicitis is likely to reveal to us something claiming special attention and interest, I have quoted notes of three cases which, though not by any means unique, may in some of their clinical features prove interesting to a few hearers.

Beyond this I shall limit myself simply to a few notes on the treatment of appendicitis as viewed at the present day.

The first case I shall mention proved of remarkable interest to me from a diagnostic point; the question meeting me as to whether I had an appendicitis or a pelvic inflammation, referable to one or more of the reproductive organs, to deal with? Though I leaned towards the former opinion and treated the case as such, yet I did not feel secure in my diagnosis until a subsequent attack of undoubted appendicitic origin led me to believe I was correct.

The patient, Miss D., aged 13½ years, was taken ill on the afternoon of the 8th January last with a severe chill, followed later on by pain in lower abdominal zone, increasing in severity throughout the night.

I was called in at 10 a.m. on 9th January, and found patient in considerable pain, with marked tenderness in right iliac region, and rest of abdomen tender only on deep pressure. No induration or perceptible dullness in right iliac region. Patient is constipated and has always been more or less so. Has had no vomiting or nausea.

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* Read before the Canadian Medical Association, at Ottawa, September, 1892.

I noticed that she lay with right leg drawn up slightly, and says she has more ease in this position, while extension aggravates the pain. Temperature 102½° F; pulse 125, small and tense. She has had the ordinary diseases of childhood, as measles, whooping cough and scarlet fever, but otherwise has always enjoyed good health, but is of a scrofulous family.

The patient herself says that getting her feet and legs thoroughly wet while skating was the cause of the attack. She went through the ice of the pond on which she was skating during the afternoon, after which she walked home getting thoroughly chilled on the way. Late in the afternoon she had a decided chill which was thought to be only a severe cold. Her increasing pain alarmed her parents, and when I arrived her condition was as mentioned.

Menstruation has not yet been established, though it is about the usual age for the onset of this function in our climate. The question then that occurred to me was: Had I an appendicitis or some disturbance of the reproductive organs due possibly to a repression of an oncoming menstrual epoch by the wetting she had received?

The age of my patient precluded all idea of vaginal examination unless of absolute necessity, and I also omitted rectal examination.

After careful consideration I concluded that I had a case of appendicitis to deal with, but until the second attack I had some little doubt as to the correctness of my diagnosis. This doubt was still more marked when, two months after first attack, menstruation was established and was accompanied by pain, not very severe.

The treatment was absolute rest in bed, internally sufficient opium to allay pain, warm water injections by the bowel daily, and a blister followed by poulticing to iliac region. Diet, milk and beef tea.

At 5 p. m. same day, 9th, temperature had fallen to 100° and pulse to 110, more compressible.

10th January.—Feels very comfortable; tenderness in iliac [illegible]ssa not so acute; temperature 95 3-5°; evening temperature [illegible]°; cold sponging morning and night in addition.

11th.—Still improving; morning temperature 99°; evening 99 3-5°.

12th.—Morning 98°; evening 98 4-5°.

Recovery steady from this time. The tenderness kept up for about a week later, gradually fading away.

Patient remained in good health until 25th July, when she was seized with sudden pain in right iliac region. This time she had no chill. No vomiting. Is constipated. Temperature 103° in evening. Pulse 130, small and tense. Tongue furred. Vomited once while I was in. This is the only time she has vomited. Decided tenderness in region of appendix. Maximum intensity corresponding to McBurney's point. She was placed on light fluid diet, rest in bed. Ice bag to right iliac region morning and evening, enema of warm water and morphia sufficient to subdue pain.

24th.—Temperature 100°. Pulse 99, full and soft. Abdomen still tender.

25th.—Temperature 98°, and markedly improved.

Tenderness rapidly diminished, and on 28th she was moving about quietly.

This second attack I concluded to be a recurrent appendicitis and a confirmation of diagnosis in the former case. I should like to hear further opinion on the case from any of you who are more conversant with this subject of appendicitis in its many and varied phases.

The second case I shall make mention of was that of Mrs. C., age 33, married, and has family of five children. Left Ontario to join her husband, north of this place, and arrived in Calgary on 13th April last.

On the morning of 12th April, she was seized while on the train with violent vomiting, severe pain in abdomen and diarrhœa. Had no chill. These symptoms she attributed to eating too many pickles for breakfast. Reaching Calgary on the 13th, she was directed to my office. The vomiting had ceased, but there was still a little diarrhœa. Marked tenderness in right iliac fossa, with a point most exquisitely sensitive about 2½ inches from anterior superior iliac spine and somewhat below a line from spine to umbilicus. Tongue furred. Temperature $101\frac{1}{2}°$ F. Pulse 100. Slight induration in right iliac fossa, of which at the time I felt doubtful. Diagnosed appendicitis.

Patient would not go to hospital, but insisted on going to a boarding house until her husband arrived. I explained to her the seriousness of the trouble, and recommended absolute rest, ice to fossa, morphia internally and liquid diet. I told her to acquaint me with her place of abode in the evening, and this she promised to do.

I heard no more of this patient until 25th, or twelve days later, when I was sent for in a hurry. I found her quite prostrated in a miserable lodging house.

I learned that two days after seeing me, finding that she was getting worse, she requested her landlady to send for me ; this the landlady neglected to do, but called in a physician whom she was in the habit of consulting. Still getting worse she dismissed him on 23rd, between which time and evening of 25th, her case was conducted by some old women in the house. On the night of 25th, finding herself decidedly weaker, suffering great pain and having recurring chills, I was hurriedly called in. Found patient very weak. Temperature 104°. Pulse 128, small and weak. Tongue somewhat dry and furred. Constipated for three days. Great pain on micturating. Some tympanites, and a well marked tumour in right iliac fossa, somewhat larger than an orange and approaching well towards middle line of abdomen.

She had not urinated for twenty-four hours. Thinking tumour might have something to do with a distended bladder, I passed a soft catheter, and removed about four ounces of a highly coloured urine having a strong pungent odour.

Vaginal examination revealed a large tumour in right fossa, entirely separate from pelvic organs.

Diagnosed a perforative appendicitis with localized abscess formation and circumscribed peritonitis.

Patient given stimulant, warm water enama, opium and nourishing diet. Applied ice to iliac region. She will go to hospital in the morning and allow operation.

26th April.—About 9 a.m. went to see patient about her transmission to hospital, and just as I arrive am hurriedly called. Find she has passed per urethra a quantity of urine containing considerable pus of a very marked fæcal odour.

She felt much relieved after this, though the bladder was very irritable. Washed bladder out with a solution of boracic acid, thus adding much to the comfort of the patient. Temperature 100°; pulse 95°; pain only on firm pressure; tumour greatly reduced but not gone.

Improvement continued until 28th April, when she was removed to hospital. Temperature then was 99°, pulse 90°. Tenderness diminishing; can now straighten out right leg which she has had to keep drawn up previously.

As she continued to improve (tumour subsiding), and was gaining in strength, I decided to trust to nature and did but regulate diet, placed her upon iron and quinine, and irrigated bladder three times daily with boracic acid solution.

In two weeks patient was sitting up and wanted to move about, but I still kept her at rest. The pus has been coming from bladder lately in very small quantities and appears to be lessening. Temperature all this time 98° to 99° F. Pulse 84 to 94°; no chills. All went well until 28th May, when temperature dropped to 97 and patient shows marked signs of prostration; pulse small and thready. From this date she rapidly sank and died at 1 a.m. on 30th May. I was notified early in the morning, and before friends removed body was able to ascertain condition present.

Opened abdomen and found considerable recent adhesions about appendix. Appendix itself dipping into pelvis about 2½ inches long, thickened and inflamed, and having a perforation about ¾ of an inch from cæcum.

Found a circumscribed abscess cavity separated from general peritoneal cavity by recent inflammatory tissue, and burrowing into sheath of rectus muscle. The abscess communicated with the bladder through its posterior wall by an opening admitting the tips of three fingers. Both fallopian tubes were thickened and contained pus.

Did not get time to examine any further, but from a superficial and hurried examination did not note anything else.

A question of interest here presents itself to me, as to whether or not I did right in temporizing after the abscess had ruptured. In such a similar case I think I should be justified in operating so soon as patient had recovered from the immediate symptoms following the rupture, and had regained some strength.

The third and last case that I shall quote was one of recurring appendicitis, which, on two successive nights showed such elevations of temperature as to somewhat alarm me at the time.

Mr. C., aged 31, has had repeated attacks of appendicitis averaging six to eight yearly. Present attack set in July 24th, with decided chill, marked pain in right inguinal region; vomiting persisting for two days; obstinate constipation; temperature 102° F.; pulse 100. Treatment: Rest; fluid diet; blistering and poulticing to seat of greatest pain in iliac fossa; morphia internally, and enema morning and evening. About 7 p.m. had a severe chill. Temperature 104½°; pulse 120. Could not account for it.

Ordered cold sponging morning and night.

25th July.—Morning temperature normal; pain easier; no induration discernable in right iliac region. At night had another chill, temperature rising to 104°. This time the rise was probably due to his indiscretion, he having been up and about the room attending to some business matters. Had a consultation and decided if the symptoms did not show signs of mending to operate.

26th.—Temperature normal and stays so; symptoms improving and tenderness disappearing. On 29th patient attended to business, though there is yet perceptible tenderness in region of appendix.

Here then is a case where I think operation in the interval of an attack is justifiable, and I have in fact recommended such, and patient shortly intends returning to Montreal and purposes having this operation performed (that is, removal of appendix.)

The general treatment of appendicitis, as viewed at the present day, appears to us to hold a two-fold aspect, namely: as seen from a medical, and as seen from a surgical, standpoint. Probably this will continue so for some time, though I doubt not but that in the near future the medical treatment of this trouble will be narrowed down to the physician's diagnosis of appendicitis, and that *the* treatment, the removal of the diseased organ, will be relegated to the surgeon.

We know not, when a case appears before us, whether it will prove simple and succumb to abortive treatment, or whether it may not assume serious proportions and threaten the life of our patient. Should we not, then, look for more scientific treatment than the old waiting policy; and what treatment more successful than that which statistics have shown has given, in the hands of our able surgeons, a minimum mortality: that of early removal of the appendix when trouble is diagnosticated there.

Regarding the present status of medicinal treatment, the concensus of opinion is for rest; opium to allay pain; ice applications to seat of trouble, and daily warm water enemata. This is practically the treatment advocated by Dr. Osler in his recent work on the practice of medicine. In addition to this I have found the patient derive marked comfort, and much benefit in the majority of my cases, from cold baths or cold sponging two or three times daily, with water at about 50° to 60° F. If, under this treatment, the symptoms subside in the course of 36 hours, the symptomatic treatment is persevered in, but if, on the contrary, the inflammatory process is progressive, operative interference is demanded.

Dr. Bridges, of Chicago, admirably sums up this line of treatment as follows:—

"Reliance on medical treatment is justifiable in acute inflammations in the cæcal region (*i.e.*, appendicitis, perityphlitis, or typhlitis) of moderate severity, in the absence of strong evidence of perforation, abscess, peritonitis, or marked tender induration lasting two or three days without some sign of decrease, and at high temperature, either continuous or recurring, rapid weak pulse, or rapid anxious respiration. But we can never know when a catastrophe is to occur, even in an apparently mild case. A few cases falling under this category will suffer sudden perforation, general peritonitis and death, but nearly all of them, failing of prompt recovery, will, if perforation occurs, have sharply localized peritonitis or perityphlitis, and probably abscess that will be easily discovered and will demand surgical treatment."

" Surgical interference," Dr. Bridges says: " Is demanded in certain cases of inflammation in the region under consideration (the right iliac), whether they happen to be called typhlitis, appendicitis, perityphlitis, or by some other name, and the weight of first responsibility is on the physician more than the surgeon."

1. " Surgery is imperative in cases of acute inflammation in the cæcal region with rather protracted high temperature, and with distinct induration, sensitive to pressure, that does not show positive evidence of subsidence within two days, or three or four days from the beginning. This rule becomes more urgent if the induration continues to increase in size and sensitiveness after two days, or if symptoms of general peritonitis occur, or rapid weak pulse, or rapid respiration. The vast majority of such cases, if left to themselves, eventuate in abscess in less than a week, and many before that time lead to mortal peritonitis. Some require operation in less than two days from the beginning of the attack, and most of them have perforation of the appendix as early as the beginning of the symptoms.

2. " Operation is required in cases of undoubted severe acute inflammation in the region of the appendix, even though no particular induration is demonstrable, and in cases of acute localized peritonitis having its origin certainly at the appendix and causing marked constitutional symptoms.

3. " Surgery is especially promptly required in that small class of acute cases in which a large, sensitive induration develops rapidly, with high fever and general evidence of severe constitutional disturbance.

4. " Surgical aid is demanded in all cases which have advanced to the subacute or chronic stage with distinct induration

of considerable size, or with any induration that steadily increases in size for many days, since in most such cases pus is present."

At the beginning of an attack it is easy or comparatively so to make a diagnosis, but it is not so easy to say, if the attack will be light or severe *i.e.*, subside or end in complications. If it subsides the patient is still liable to subsequent attacks with danger of a disasterous result. There seems to be but one sound scientific treatment, excision of the diseased organ, once the diagnosis is sure. This further seems the more rational treatment when one considers the uselessness of this organ.

Some advocate immediate operation, others wait until dangerous symptoms have developed; the course at present pursued is a modification, wait twenty-four or thirty-six hours, and be governed by the signs then present, if the patient gets well operate in the interval, if not, then operate when undoubted circumscribed peritonitis appears.

"Pus will form whether there be perforation or none," Matterstock.

"Abscess, wherever it is, and however well it may appear to be surrounded by protective plastic deposits, is a constant menace to life, as evidenced abundantly by its spontaneous opening into the abdominal cavity, the venal canals, the bladder and the chest cavity, as well as externally and into the intestinal canal."—Professor Bridges. In recurrent appendicitis opinion is in favour of operation, either immediate or in interval of attacks. Some timid operators leave surgical treatment of this disease as a last resort, allowing the individual to go on having continued attacks, while others look upon operative interference as the only absolutely safe cure for such. The patient learns to dread the recurrence of these attacks, they interfere with his health, cause great loss of time and much anxiety, especially is this so where, as in case three narrated, the attacks occur many times yearly. The mortality from cases treated strictly medically as mentioned in the early part of these notes, is given by Fitz at forty-four per cent., whereas that from the conservative treatment shows a mortality of only twenty-five per cent.

I remember some time ago reading an article by an experienced surgeon, recommending " operate early (before sepsis begins), so the operation may not be an autopsy."

Keen says: " No cases in surgery saving, perhaps, hæmorrhage from large wounded vessels, require more prompt interference " (surgical).

Surgeons who not long since advocated waiting three or four days before operating, now concede that operation is determined by presence of pus in region of appendix. We shall next see upheld the rule of operating as soon as a positive diagnosis of appendicitis can be made, that is, when there is undoubted circumscribed peritonitis.

The tendency of the treatment of such cases at the present day lies decidedly in a just appreciation of the benefits permanently derived from surgical interference, and so soon as the profession generally and the public at large recognize this, so soon shall we attain a scientific solution of appendical treatment, and our statistics show a lowered mortality from appendicitis.

RADICAL CURE OF HERNIA WITH A REPORT OF SEVENTEEN CASES OF OPERATION.

By J. Wishart, M.D., London, Ontario.

The radical cure of hernia has within the last fifteen or twenty years been a question of great interest and seems to have been steadily gaining ground, for as statistics continue to multiply, it is shown that the operation when carefully performed is not very dangerous to life, and in a large percentage of the cases the cure remains permanent, even after many years. The fact that the disease often relapses is now pretty well realized by surgeons who have had any experience in operating, but this constitutes no valid objection against surgical interference, for this is commonly the case in the majority of operations. Unfortunately for us the pioneers in this branch of operative surgery have so far been unable to formulate rules as to which cases should be operated upon and which let alone, neither have they satisfactorily explained why certain cases succeed, and others fail. The cause is doubtless hard to explain, for it is extremely difficult to ascertain whether the reason for failure lies with the size or condition of the hernia, the patients general health, his age or his conduct after the operation or the kind of operation employed. No operative procedure yet devised will effectually remove the causes of every species of hernia, so that in certain cases a permanent cure is out of the question: nevertheless the radical cure of hernia may be regarded as among the satisfactory operations in surgery. Although the operation has been successfully performed at almost all periods of life, most authors incline to the opinion, that it should not be attempted in childhood, being somewhat more dangerous in these cases, and the prospect of a cure by means of a truss is in most cases to be expected. Should this fail or should it be found impossible to confine the hernia within the abdomen by means of an instrument then the radical operation is to be advised. Irreducible herniæ in adults not advanced in years, and in fact all those cases which cause serious discomfort to the patient, and at the same time are not externally large should be subjected to operation. In reducible herniæ which cause no discomfort and are easily retained in place by a truss, I am disposed to think, as a general rule, the operation should not be urged upon the patient. In all cases of strangulated hernia, when the condition of the intestines permits of return within the abdominal cavity the radical operation should be attempted.

The radical operation is contraindicated in,

(*a*) All cachectic conditions.

(*b*) Very large strangulated herniæ.

(*c*) The aged, where the patient is not likely to survive a prolonged operation under an anæsthetic.

Here the surgeon should content himself with relieving the strangulation.

While on the subject of strangulation I would beg leave for a moment to urge upon the profession the vital principle of early operation in cases of strangulated herniæ. When done early it is comparatively easy and free from danger, but owing to a variety of circumstances the operation is often delayed until too late to save the life of the patient. It frequently happens as in the last case of the appended list, that the tumour consists entirely of omentum, and the symptoms are not severe. The pain is inconsiderable, the vomiting not marked and the abdominal distension not pronounced, the intestinal functions, although impaired are not suspended, and the movements of the bowels occur at intervals of greater or lesser frequency with difficulty. Death finally takes place from gangrene of the part with subsequent abscess in the abdomen and general systemic infection. Not unfrequently the case is rendered obscure by the corpulency of the individual, the small size of the tumor, the use of a hypodermic syringe, or a combination of all three with a patient a considerable distance in the country.

In the appended table I have arranged all the cases treated since I began operating with a view to the radical cure of hernia.

There are seventeen tabulated, all of which are adults, with the single exception of a child eighteen months old. The ages range from nineteen to fifty years, with an average of forty-one. There are five females and twelve males, the five females being femoral and the twelve males inguinal, except a man, aged forty-two, with a recent strangulated femoral hernia :

2 cases operated on in - - - - - - 1888
4 " " " - - - - - - - 1889
5 " " " - - - - - - - 1890
4 " " " - - - - - - - 1891
2 " " " - - - - - - - 1892
5 cases sac contained bowel only.
6 " " " omentum only.
5 " " " omentum and bowel.
1 " undescended testicle with the bowel.

In five of the cases there were rather extensive old adhesions of the omentum to the sac. The bowel was not adherent to any extent in any case. In eight cases the operation was done for strangulation, and the radical cure combined with the relief of the stricture. In two cases the strangulation had existed two days, in two for three days, in two cases six to eight hours ;

in one case (omental) of recent femoral hernia in a male for six days.

In one other femoral case the hernia had not been discovered until three days before operation, but had evidently lasted a much longer period judging from the condition of the parts.

Time of recovery was from one to two months, the average being five and a-half weeks. Two of the cases of inguinal hernia have returned. One of these was operated upon in 1889, the other in 1890.

One case of femoral hernia in a female operated upon in 1890, I think has returned, as she writes me that she feels better and more comfortable with a truss. I have not examined this patient since operation.

Two cases were congenital, one that of a child eighteen months old; the other an adult male, aged thirty-eight. The last case operated upon developed malignant disease in the abdomen some weeks after the operation, and has since died. No truss was used in any case after the operation.

2 cases under observation 3 years—no recurrence.
8 " " " 2 " —three recurred.
3 " " " 1 " —no recurrence.
4 " " " less than 1 year—no recurrence.
1 " since died of malignant disease.

[illegible] followed was that of McBurney, [illegible] the whole length [illegible] the neck [illegible] remaining [illegible] sutured with [illegible] and protect [illegible] external [illegible] hernia [illegible] and [illegible] The [illegible] in [illegible] off that portion of the sac below the ligature, and stitching up the wound with silk.

Name.	Age.	Variety.	Date of Operation.	Contents of Sac.	Condition.	Time of Recovery.	When Last Seen.	Date of Recurrence, etc.
Mrs. C. 1	40	Femoral	March, 1888	Bowel	Strang 3 days	5 weeks	March, 1890	
Mrs. Nagle 2	42	"	April, 1888	Bowel & omen'.	" 2 "	5 "	April, 1890	
S. Fox 3	38	Inguinal	April, 1889	Omentum	Adhesions 60.	6 "	Nov. 23, 1891	Congenital.
T. Stockwell 4	48	"	October, 1889	"	"	6 "	Sept. 1892	
D. Woodward 5	29	"	December, 1889	"	"	6 "		December, 1890.
J. Hendrick 6	26	"	" "	Bowel & omen'	"	5 "		
H. McCann 7	1½	"	April, 1890	Bowel	Not adherent	8 "	June, 1892	Congenital & Tunica Vag. suppurated.
C. Morrison 8	55	"	February, 1890	Bowel	Not adherent	6 "		January, 1891.
Rathburn 9	28	"	October, 1890	Bowel & omen'	"	6 "		
Mrs. Nimock 10	40	Femoral	December, 1890	Bowel	Strang. 3 days	6 "	Dec. '91, wears truss probably returned.	
R. Scott 11	19	Inguinal	December, 1890	Bowel & testicle	Strang. 8 h'rs	5 "		
Mrs. Maynard 12	50	Femora	November, 1891	Omentum	" 48 "	5 "	Sept., 1892	
C. Hodge 13	52	Inguinal	September, 1890	Omen' & bowel	" 6 "	5 "	August, 1892	
— Barkwell 14	50	"	January, 1891	" "		5½ "	July, 1892	
— Craigan 15	42	"	" "	Bowel		2 months	May, 1892	Suppurated.
T. McMann 16	42	Femoral	June, 1892	Omentum	Strang. 5 days	2 weeks	Sept. 1892	
Mrs. Owens 17	65	"	July, 1892	"	" unkno'n	2 "	Died since of malignant disease in abdomen.	

REPORT ON A HUNDRED CASES OF ETHER ANÆSTHESIA BY CLOVER'S INHALER.*

BY G. GORDON CAMPBELL, B.Sc., M.D.

As the title of my paper suggests, my object is to bring before the Society a report of the results obtainable by the use of Clover's inhaler in ether anæsthesia, rather than a discussion of the subject of anæsthesia in general. There are, no doubt, many members who are not acquainted with this form of inhaler, so I will exhibit the instrument. The following description is copied from Mill's article on Anæsthesia in *Treves' Manual of Surgery*:

"The inhaler consists of a face-piece with an indicator which, by rotation, may be made to point to 0, 1, 2, 3, and F on the circumference of a metallic vessel containing fluid ether; and of a bag into and from which the patient breathes. It is so constructed that when the indicator is at 0 the expired and inspired air passes to and from the bag, without in any way communicating with the ether chamber. If the indicator stands at F, the whole of the expired air must pass through the ether vessel to the bag, and at inspiration return from the bag through the ether vessel. When the indicator is at 2, half the respired air passes to and from the bag direct, the other half passes through the ether vessel, and so on for the other numbers. The air does not pass through the ether but simply through the vessel containing it, and this is sufficient to carry off a large amount of its vapour."

On commencing the administration I pour an ounce and a half of ether into the vessel and rotate the cylinder so that the indicator is at [illegible]. The pillows are then arranged so that the patient's head is as nearly as possible in a line with the body, that is, as it would be if he were standing. The eyes being closed the [illegible] is then placed on the face and [illegible] away from the chin so that the mouth is left free. I then direct the patient to take several deep breaths and lower the face-piece in time to [illegible] each expiration, raising it again at inspiration, and thus fill the bag with the expired air. The usual result of taking several deep breaths now follows, the succeeding ones are much shallower than normal, and I now turn the cylinder so that the indicator stands at about a quarter way between 0 and 1, which means that the patient is getting about five per cent. of ether vapour in the air breathed.

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* Read before the Medico-Chirurgical Society of Montreal, Dec. [illegible], 1896.

I think it a good plan not to require the patient to take deep breaths at first, as ether always causes more or less irritation to the respiratory tract, and by beginning with a very small amount the percentage of vapour may often be rapidly increased without producing much distress. If the vapour causes no discomfort the reservoir is now slowly rotated, moving only a short distance at a time and giving a breath of pure air when necessary. At the first sign of intolerance, such as swallowing or raising the hand to remove the inhaler, I give a breath of pure air, and if this fails to quiet the breathing I turn the reservoir back some distance. Very soon a stage is reached at which the patient seems to fall asleep and regular, deep breathing ensues, enabling the ether to be turned on more rapidly, and complete anæsthesia, shown by loss of the corneal reflex and snoring breathing, follows without any further trouble. At the moment full anæsthesia is produced the muscles all over the body relax, the chin falls, and the advantage of having the neck straight is now seen, as where the head is raised too high on the pillows the chin, as it falls, allows the glottis to become closed and the passage of air into the lungs to become more or less completely blocked. If, however, the neck is not bent, placing one finger behind the angle of the jaw and raising it up at once allows of the free passage of air through the larynx. In a few cases of obstruction to the breathing this procedure is unsuccessful and attention should then be turned to the nostrils, which, in many people, under the complete relaxation of deep anæsthesia, collapse at the beginning of each inspiration. Inserting a small piece of stiff rubber tubing of the proper size into each nostril, until the muscles have regained their tone, will remedy this condition. It occasionally happens that instead of relaxation a state of tonic contraction or spasm, affecting the whole body, follows full anæsthesia. The cause of this rigidity I cannot explain, but by experience I have found that withdrawing the ether altogether, until it passes off, is the best plan of treating it, as on recommencing the administration it is not likely to recur. Pushing the ether seems to prolong the spasm. The condition has occurred eight times in the hundred cases, but in only three of these was it at all marked. Very much less ether is required to keep up than to induce anæsthesia, hence I now turn the indicator back to midway between 1 and 2, and in fifteen minutes or so it can again be moved back, giving less and less ether as time goes on. At the beginning, too, the patient may get one inspiration of air to every three from the bag, gradually increasing the proportion of pure air.

I will now take up in order the various points of which I have kept a record, first,

The length of Time required to produce complete anæsthesia.—The average time for the whole hundred cases is 5.21 minutes, the longest being 11 and the shortest 2½ minutes. This, however, does not fairly represent the time usually necessary, as over 50 per cent. were under five minutes. It must also be noted in considering this average, that the time was calculated from the moment the inhaler was applied to the patient's face until she was ready for operation, as I consider that, from the point of view of both patient and surgeon, the actual time taken up after the inhaler is applied until the patient is ready for operation, is of more practical importance than the number of minutes it takes to induce anæsthesia, when once the breathing of ether vapour has begun. A great many persons will not breathe properly at first, and some time is spent in allowing them to become accustomed to the apparatus before the ether can be turned on to any extent; and I have included this time, although it will be seen that all cases of over six minutes duration were due to this cause and there are twenty of such. Furthermore, it must be remembered that the main point kept in view during the administration is to give the ether with as little discomfort to the patient as possible, and although this lengthens the time somewhat I have not had a single case in which there was struggling or the patient required any restraint. My rule is, on the patient showing any resistance or crying out, to endeavour to reassure her and at the same time diminish the strength of the vapour. If this fails and struggling and screaming commences, I at once remove the inhaler from the face and, speaking sharply, order her to take the ether quietly, saying I will wait until she does so; and in all but one case this has had the desired effect, perhaps by the substitution of one emotion for another, the fear, or whatever caused the excitement, being replaced by a feeling of resentment at my want of sympathy. The failure referred to is worth alluding to. The patient, after a few breaths, began to scream, and on my removing the inhaler was so excited she could not be induced to commence again for a full hour. The idea had become firmly fixed in her mind that she had entered on what she called the "terrors of death," and that I had recognised her danger in time to remove the inhaler and save her life. Finally, however, she went under in four minutes without a cry, although she was trembling with excitement. Where a second operation has to be performed, the advantage of using no force in the first administration, and of having the patient look back on it with as little dread as possible, is very great.

Percentage of Ether Necessary to Produce Anæsthesia.—In fifty of the cases reported I have kept a record of the proportion of ether vapour, as registered by the indicator, in the respired air, at the moment of full anæsthesia, on the supposition that the air passing through the ether vessel becomes completely saturated with vapour. Estimating the proportion from this basis, I find that the average is 60 per cent.; that is, that the patient becomes fully anæsthetised before the air breathed contains two-thirds of its bulk of ether vapour. The old idea, then, that ether vapour needs to be given as nearly pure as possible must be abandoned.

Amount of Ether Consumed.—The next point I have worked out is the amount of ether consumed during an administration, and this I have obtained by noting the amount of ether used and the length of the administration in 73 cases, of which the shortest was 20 minutes and the longest was 3½ hours. The average length of administration is 91 minutes, or 1½ hours; and the average amount of ether used, four ounces and six drachms by measure (f℥iv f℈vi), that is considerably less than a quarter pound tin. The ether in a 100 gramme tin, which measures just five fluid ounces, will suffice for an administration lasting an hour and thirty minutes. About four fluid ounces are required the first hour, and two the next, and so on. There is too, roughly speaking, a relation between the body weight and the amount of ether used, but this is often disturbed by other causes which I am unable to define, but perhaps individual idiosyncrasy is a prominent one.

Vomiting during the Operation.—Vomiting on the operation table occurred four times in the 100 cases: once owing to the ether being withdrawn too soon, and once in an extremely nervous subject. The other two instances were in the same patient on two separate occasions, and were attributed to a large dose of whiskey and water taken just before beginning the ether.

After Vomiting.—I have kept a record of the vomiting occurring while the patient was recovering from the anæsthetic in the last forty cases. Fifteen of these, or over one-third, 37½ p.c. were not sick at all, seven were very sick and the others vomited from one to four times. Absence of vomiting does not necessarily mean absence of nausea, but as in most cases nausea is accompanied by vomiting, we can get some idea of the relative frequency of after sickness from these figures. The amount of vomiting occurring after the patient comes out of the anæsthetic is also of practical importance in many laparotomies where tension on the abdominal walls from within is desired to be avoided as far as possible.

During the induction of anæsthesia the pulse as a rule becomes very rapid, running up to 120 or 140, at the end of ten minutes, however, it will be found to have slowed down considerably, and it finally falls to between 80—100, and is generally much fuller and stronger at the end of the administration than just before the commencement. On discontinuing the ether, however, the rate rapidly increases again.

The respirations are full and strong and average 25 to 35 to the minute. Quicker respirations mean that more ether is being given than necessary, and slower, that the anæsthesia is on the point of passing off. The rate, therefore, of the breathing, can be used as an indication of the degree of anæsthesia present.

The pupils at the outset dilate, but soon contract, and remain moderately contracted throughout. The presence of the light reflex is seen where the anæsthesia is not very profound; and contraction may thus be produced in one eye from repeated exposure when the other pupil is moderately large.

Sighing is often very marked. it occurs every 45–65 respirations, and seems to have very little significance.

As stated before, I find that patients breathe much more easily when the head is not raised on a pillow in such a manner as to bend the neck. In persons with short thick necks no pillow at all is to be preferred. Closure of the glottis is at once relieved by making extreme extension of the neck, while at the same time the angles of the jaw are drawn forward away from the neck. I have never had to use tongue forceps.

Stiff mucus collecting in the throat and interfering with respiration is easily removed by a small sponge on an old fashioned sponge holder.

In giving the anæsthetic I consider it is absolutely necessary, in order to get good results, to have a quiet room to begin in. Success, both as regards time and comfort, depends upon not exceeding the tolerance of the patient, and the noise made by the air going to and from the bag is what the anæsthetist depends upon to guide him. Any noise which would prevent one from hearing when there is some obstruction to the breathing, will prevent the proper precautions being taken in time to avoid struggling, etc. Moreover, it is found that patients who pass into unconsciousness without excitement and without a struggle, bear the anæsthetic much better during the operation than when there is a stage of excitement. The behaviour of each individual case to the anæsthetic is noted while the patient is going under, and the after conduct of the case is governed by the knowledge thus gained. When it is at all possible then, the administration should be begun by the one who is to carry it on.

It is claimed that the effect produced by this form of inhaler is, to a great extent, due to asphyxia induced by reduction in the amount of oxygen and re-breathing of expired air; and, moreover, that the breathing of the respired air has a deleterious effect, owing to the poisonous matters eliminated in it. In order to determine as far as possible what portion of the anæsthetic effect was due to asphyxia, I gave the ether in ten cases in the following manner: one respiration of air; inspiration of air; expiration into the bag; one respiration from and to the bag; that is, in every three breaths two are pure air, and then the air in the bag is replenished each time by an expiration containing the amount of pure air in the nose and respiratory passages at the end of inspiration. The foul air in the bag is thus diluted with a certain amount of good air before it is drawn into the lungs. As two breaths of pure air are taken to every one from the bag, the effect produced by asphyxia under such circumstances must be almost nil, when we remember that the patient is breathing at double the normal rate. Now, comparing these ten cases with ten others having respectively corresponding durations, I found that in the cases where the possible effect due to asphyxia was eliminated, the amount of ether used only increased half a drachm in five ounces. Consequently asphyxia cannot be a factor of any practical importance in the anæsthesia induced and kept up in the manner described, although by allowing the patient to breathe very much less pure air in proportion to that from the bag, than is my practice, it may become of importance.

In conclusion let me sum up briefly the advantages claimed for this form of ether inhaler.

Rapidity in the production of anæsthesia combined with but little discomfort to the patient.

The small amount of ether used and the slight escape of ether vapour into the room.

The extremely slight liability to vomiting while under the influence.

The advantage to the anæsthetist of having the exact state of the breathing constantly evident to him through his sense of hearing, and the prime importance of this now that the respiration is admittted on all sides to be the most trustworthy evidence of the patient's condition, and the first function to show the approach of danger.

It is necessary to state for a proper estimate of the value of the foregoing statistics that the patients were, with three or four exceptions, all adult females, and the most of them in a private hospital where all precautions are taken to ensure success. The operation is done between nine and ten in the morning, and no food, except beef tea allowed for twelve hours before. The absence in this report of such after effects as bronchitis, suppression of urine, etc., which are usually attributed to ether, is because none were observed, although the patient was always under observation for at least ten days.

I have appended to the report a table of the individual cases from which my statistics are compiled.

Number of Cases.	Time going under, in minutes.	Percentage of ether reached at moment of complete anæst'a.	Total length of time anæsthetised (minutes.)	Amount of ether used (fluid drachms.)	Number of times after-vomiting occurred.	REMARKS
1	4	56	80	32	.....	Profound anæmia, sighing 48-65, quiet.
2	9	100	200	64	......	Talked and cried out just before going under, but no force necessary; ether very cold.
3	4	70	140	40	......	Stopped giving ether too soon; patient vomited on table
4	6	75	140	44	......	Large woman.
5	4½	100	....	....	.....	Ether very cold.
6	7	75	35	20	......	Rigidity of whole body 1 minute after abolition of corneal reflex.
7	6	62	..		...	
8	4½	45	25	20	......	
9	4½	63	70	28	......	Aged 76.
10	7	62	80	24	....	Very weak; required very little ether.
11	10	75	110	40	......	Rigidity and moving hand after abolition of corneal reflex.
12	10	70	90	26	.....	Kept a finger under mouth-piece going under.
13	6	50	....	....	......	
14	4	62	....	....	....	Sighing very marked.
15	7	84	135	....	......	Large woman; 5 p. c. ether last 40 minutes.
16	4	50	....	....	......	
17	4½	50	....	...	......	
18	5	50			......	Hiccough at times, stopped by pushing ether.
19	8	.....	....	....	.....	

No. of Cases.	Time going under, in minutes.	Percentage of ether reached at moment of complete anæst'a.	Total length of time anæsthetised (minutes.)	Amount of ether used (fluid drachms.)	Number of times after-vomiting occurred.	Remarks.
20	11	70	....	....	......	Increased strength of vapour too rapidly causing spasm.
21	10	....	..	....	......	Removing stitches.
22	4	....	....	....	......	
23	5	50	..	....	......	
24	3	70	145	48	......	Less than 5 p. c. most of time.
25	8	75	55	32	.....	
26	11	....	200	68	......	Vomited going under, just before anæsthesia complete; 6 p. c. ether after anæsthesia produced.
27	3	50	....	...	......	
28	7	....		....	......	
29	5	....	...	....	......	
30	6½	....	...	....	......	Vomited on the table.
31	8	....	..	....	......	
32	5	45	....	....	......	
33	4	63			......	
34	5	56	140	44	......	
35	4	45	140	24	......	Very slight; emaciated; breathing stopped by mucus in throat; relieved by turning on side; no ether required at all last hour, except an occasional breath.
36	5	45	50	24	......	
37	7	50	....	....	......	
38	3½	62	75	44	......	Large woman; used more ether than usual.
39	5	50	120	48	......	
40	4½	45	90	40	......	Ether given on side; elbow used. Kidney case.
41	11	63	....	....	......	Mouth-piece not fit the face.
42	4	56	45	24	.....	Reflex from perinæum after corneal absent.
43	5	62	85	50	.....	Vomited six times at intervals while completely anæsthetised; given brandy and water just before administration.
44	6	62	...	....	......	
45	7½	75	105	48	.....	Inhaler not fit the face—No. 41.
46	8	....	50	32	....	
47	5	50	60	26	......	
48	3	....	45	24	.....	
49	4½	50	180	64	......	
50	4	....	....	..	......	
51	3	....	45	24	......	Gave 25 p. c. ether all the time.
52	5	....	75	28	......	
53	4	....	55	28	......	Very anæmic.
54	3½	75	40	26	......	Same as 43; vomited once during administration; spirits and water just before.
55	5	....	20	8	.....	Examination abdomen; umbilical hernia.
56	4½	....	60	32	......	Same case as 55; operation.
57	5	70	60	36	......	
58	5				......	Male. Dental case.
59	4½	50	60	32		
60	4	....		..	......	Same case as 59.
61	5		120	44	3	
62	6	....	150	48	3	
63	10	....	120	44	1	Mouth-piece not fit; remedied by turning end for end; pulse very slow, 52
64	3	50	110	44	0	Gave 2 breaths air to 1 ether all through.
65	5	62	90	36	0	2 air to 1 ether; kept indicator at 1½ = 38 p. c.
66	4½	....	15	32	1	Thick mucus in throat; relieved by pulling out the pillow.
67	5	....	115	40	2	2 air to 1 ether.
68	5	..	45	20	0	
69	2½	....	150	56	0	
70	4½	...	110	44	0	

Number of Cases.	Time going under, in minutes.	Percentage of ether reached at moment of complete anæst'a.	Total length of time anæsthetised (minutes.)	Amount of ether used (fluid drachms.)	Number of times after vomiting occurred.	REMARKS.
71	10	...	70	26	0	Going under commenced to scream; removed inhaler and waited until she agreed to breathe quietly.
72	4½	....	120	40	6	2 air to 1 ether; kept at 25 p. c.
73	6	....	85	41	1	Very large woman.
74	5	....	60	30	Many	2 air to 1 ether.
75	4	...	90	36	3	2 air to 1 ether.
76	3	....	90	52	0	Large woman; 2 air to 1 ether; large amount used.
77	4	....	120	48	3	2 air to 1 ether.
78	3½	..	45	24	Many	Very nervous woman; spasm of glottis at beginning.
79	7	....	90	40	5	1 ether to 2 air.
80	5	....	135	48	2	2 air to 1 ether.
81	4	....	120	48	3	
82	4	...	30	16	Many	Vomited on the table. Very nervous.
83	5½	....	50	24	3	Same as 81.
84	3½	..	30	16	3	
85	4	....	45	20	4	
86	3½	....	95	34	0	Some spasm and rigidity.
87	3	....	90	48	Many	Same case as 82: mucus in throat.
88	5	50	100	42	0	2 air to 1 ether.
89	3	....	85	48	2	Considerable mucus during operation.
90	4	....	105	52	Many	During administration, spasm lasting so long the patient almost regained consciousness.
91	4	....	95	56	6	
92	4	....	135	88	2	
93	4	50	135	44	0	Case described; screaming and refusal to go on for an hour.
94	5	....	20	8	0	Opening abscess.
95	4	....	120	44	1	No mucus.
96	3½	45	120	44	1	Some sighing; pulse 82 from 120.
97	3	50	50	24	Many	Urine, 8 oz. 1010.; urea 1½ grains to oz. = 12 grains.
98	3½	45	90	36	0	Urine ½ oz.; loaded urates; urea 11 grs. to oz. = 5½ grs.
99	3¼	60	80	34	0	Abdominal case; urine ½ oz.; urea 5 grains.
100	5	....	110	44	0	Excision of the breast.
	5·21	60	91	38	37½	Per cent. without after vomiting.

Retrospect Department.

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

PREPARED BY T. JOHNSON-ALLOWAY, M.D., MONTREAL.

Ectopic Gestation.—DR. JOHN W. TAYLOR read a paper on this subject before the British Gynæcological Society recently. He says: (*British Gynæcological Journal*, August, August, 1892, page 168.) That ectopic pregnancy is almost always tubal in its origin and that it is liable to cause dangerous or fatal hæmorrhage from rupture of the tube are points too well established now to need confirmation or comment, but it seems to me that it has been too readily assumed that the sequence of tubal distension, rupture at a definite period, and dangerous or fatal hæmorrhage consequent on this, is an almost invariable one. My own experience and observation of cases of extra-uterine gestation have been sufficiently extensive to teach me that there are few diseases the course of which can be more variable. With the exception of cases of early operation in which a ruptured tube has been removed before any trace of a fœtus can be found, it is quite rare to meet with specimens in which the method of growth or extension has been strictly similar or directly comparable; and while full justice has been done to some ways of development such as that beneath or within the broad ligament, so well described by Drs. Hart and Carter, I am convinced that there are notable variations from this standard in advanced ectopic pregnancies, that need further study and elucidation.

The following cases treated by operation were then related:

Case I.—Mrs. E. F., aged 44; four children, youngest five years of age. Menstruation regular until eight weeks before seen, since then has been continuous and profuse. Examination discovered a large, soft, irregular tender tumor in Douglas' pouch behind the uterus. Diagnosed, as tubal operation discovered, a large blood clot in Douglas' pouch, some recent adhesions. The right fallopian tube was found to be distended in its centre, and on being split open after removal revealed a small "mole" of pregnancy attached to one part of the inner surface of the tube.

In this case there was hæmorrhage in the abdomen and also into the vagina, and there was no endeavor on the part of the tube to extrude the contents into either the abdomen or uterus, so-called "tubal abortion."

Case II.—This case was one of tubal pregnancy, causing early rupture with sudden and profuse hæmorrhage. Aged 33, one child six years of age. She missed one month, then one week following she was seized with severe abdominal pain, nausea, and increased rate of pulse. Next morning vomited several times and pulse rose to 140. Condition now was that of great palor, faintness, quick feeble pulse and great abdominal distension, but fully conscious.

Examination.—A soft doughy mass felt in Douglas' pouch behind the uterus. Diagnosis—Hæmorrhage from ruptured tubal pregnancy.

Operation—Great quantity of fluid blood gushed out through opening; whole of cavity distended with blood. Suspecting left tubal pregnancy, left broad ligament was rapidly clamped off, isolating the appendages, and found left tubal gestation sac. this with its ovary was removed. Right appendages found healthy and returned to pelvis.

Case III.—The third case of Dr. Taylor's was a tubal pregnancy, which dilated the fallopian tube to a large size *without rupture*, then became quiescent and stationary for a time, and was finally removed by operation after five weeks' careful observation.

Case IV.—The fourth case of Dr. Taylor's was also a tubal pregnancy of about four months' duration, but in this case there has been a proper development of the child, so that the fœtus answers to the recognized normal standard at four months. How has this been accomplished? The pregnancy is in the outer part of the left fallopian tube, at the fimbriated end. This was the condition found at operation The uterus was pushed by the pregnancy to the left side of the pelvis. The space on the right side was therefore filled by the mass, and the latter had encroached upon the abdomen.

Case V.—This was a case of pregnancy at full term, in which the child was found free in the abdominal cavity beneath the omentum, and the removal of the child, and the subsequent removal of the placenta was followed by the recovery of the mother and life of the child.

Case VI.—Dr. Taylor relates another case, one in which an extra-uterine pregnancy progressed beyond full term in a thick intra-peritoneal sac. There were grave constitutional disturbances of a septic nature, characterised by pyrexial rigors, vomiting, and marked prostration, and when seen everything seemed to point to a fatal issue.

Operation.—On opening the abdomen the purple wall of the tumor became visible. This tumor contained several pints of dirty brown fluid.

Dr. Taylor also relates the history of a case where the patient experienced all the symptoms of rupture and hæmorrhage, but apparently recovered without operation sufficiently to be in fairly good health for two years. A second rupture then took place, necessitating operation and removal of the mass, from which operation the patient nearly died. The parts removed showed evidence of the first rupture. This case proves the fallacy of treating cases of ectopic pregnancy on an expectant plan.

Surgery of Diseased Uterine Appendages.—Dr. RUTHERFORD MORRISON (*British Gyn. Jour.*) in considering the propriety of operating in many of these diseases, says the elaborate differential diagnosis is frequently difficult and in some impossible. The symptoms representing inflammatory conditions requiring operation are :

A history of recurrent attacks of peritonitis. These are due in the majority of cases to gross disease of the tubes, pyo-, hemato-, or hydro-salpinx, and, as a rule, require operation. If alone or treated palliatively, protracted and painful convalescence may occur, interrupted by relapses, which may at any time suddenly prove fatal.

Hæmorrhage from the uterus, with few exceptions, occurs more or less in all cases of inflammatory disease of the appendages, as well as that of the uterus, and may be so mild as not to attract attention to the pelvic organs, or so severe and accompanied by pain as to seriously injure the patient's health.

Pain—the most urgent from the patient's point of view, and the most misleading from the surgeon's. The most prolonged and painful complaints are not always attended by physical evidence of organic disease. This fact is, I believe, not sufficiently recognized, and unless the pain is accompanied by physical signs of gross and active pelvic disease, these patients should not be operated on, because these are the patients who are not benefited, but, as a rule, are made worse by the operation.

The physical signs indicating that a case requires operation are:

The ordinary signs of pelvic peritonitis, with exudation, possibly in sufficient quantities to exclude all other land marks. The history is usually one of preceding gonorrhœa, abortion, or confinement; the symptoms, those described, and the cause, diseased tubes.

Dilated and distended tubes usually to be felt behind the the uterus, and recognized by the rounded shape and elastic feel. The history varies with the history of the case and the contents of the tubes. Gonorrhœa is the most frequent cause, and the contents of the tube usually purulent. Extra-uterine pregnancy may be the cause, and blood is then found in the tubes.

Ovarian tumors; ovarian enlargements which may be due to abscess or chronic ovaritis.

A displaced ovary, when causing painful defecation, dyspareunia, irregular hæmorrhages, and pain on palpation, should be removed if ordinary methods fail to remove the symptoms.

Some cases of acquired dysmenorrhœa, frequently due to chronic salpingitis, can only be cured by removal of the appendages, even when it is impossible to feel the ovaries on account of old adhesions surrounding them. These adhesions are an important aid in diagnosis.

Some cases of irregular hemorrhage, illness and pain resulting from the same causes as the preceding.

Every case of acute general peritonitis is due to some gross lesion, mostly requiring operative treatment; and in women the possibility of rupture of diseased appendages must not be forgotten.

In a few words the conclusion is that cases of ovarian and tubal disease requiring the operation of removal are those in which there are definite signs of disease in the pelvis, causing serious symptoms.

Removal of diseased appendages is the only course if the diagnosis is correct. Nothing, in my experience, can be more satisfactory than the results of the removal of diseased appendages. The patient's immediate recovery is rapid, the mortality for a major operation small, and everyone interested is satisfied with her ultimate condition.

Dr. Morrison says: "I am convinced that a woman is in no way altered by removal of her uterine appendages in these cases except for the better. Her womanly instincts and feelings are not abolished by the operation. If suitable cases are submitted to operation, I believe that prolonged and tiresome convalesence and doubtful results will soon cease to be heard of."

Pelvic Peritonitis, the Surgical Intervention in Certain Cases of.—Dr. C. J. CULLINGWORTH read a paper at the Obstetrical Society of London, October 5, 1892 (*Medical Press*), based on fifty observations of his own, in favor of surgical intervention in certain cases of pelvic peritonitis. The cases include the whole of the author's experience up to February, 1891. Pelvic suppuration was present in 30 cases, or 60 per cent. It occurred in the fallopian tube alone in 13 cases; in the ovary alone in 6 cases; in both tube and ovary in 7 cases (in 6 of which both tube and ovary were in direct communication), and in the remaining 4 cases the seat of the suppuration was not either precisely determined or did not involve either the tube or the ovary. There was a strong presumptive evidence of gonorrhea in a large proportion of the cases, and in four the proof seemed complete. Nine of the cases died, a mortality of

18 per cent. Seven of the deaths were due to peritonitis—probably septic—one to nephritis, and one to collapse on the eleventh day.

Of the fatal cases 1 was tubercular disease of the tubes, 2 were purulent salpingitis, 1 was double salpingitis with old hemorrhage, 2 were suppurating tubo-ovarian cysts, 1 was retro-peritoneal suppurating cyst, 2 were old peritonitis with serous cysts of the broad ligament. The mortality sensibly diminished as he gained experience. Hemorrhage to a greater or less extent existed in 12 of the 32 cases of salpingitis. In 5 cases there was amenorrhœa, in 3 dysmenorrhea, while in 12 the menstrual functions were undisturbed. In 16 cases the removal of the appendages was complete, in 23 partial. Of the former, 15 recovered; of the latter, 17. The peritoneum was flushed in 22 cases, of which 18 recovered. Drainage was employed is 47 out of 55 cases.

In 2 cases a fecal fistula formed, which in each instance healed spontaneously. In 5 cases the patients complained for some time afterward of a more or less persistent pain. A sinus existed in 6 of the cases when the patients left the hospital; in 2 of these the sinus had healed when the patients were last seen. In 4 cases hernia had occurred in the line of incision. He particularly called attention to the unreliability of the temperature as a sign of pelvic suppuration, the temperature before operation having been absolutely normal in twelve of the thirty cases in which suppuration was present. He suggested the following conclusions as the outcome of his experience:

1. Recurrent attacks of pelvic peritonitis in the female ought always to lead to a strong suspicion of the existence of chronic disease of the uterine appendages, and to a careful bimanual examination.

2. Purulent collections in the pelvis are particularly apt to set up recurrent peritonitis, and are more common than is usually supposed.

3. Where distinct swellings are found in the posterior quarters of the pelvis, in connection with recurrent attacks of pelvic peritonitis, surgical relief is usually indicated, and, generally speaking, the sooner such relief is afforded the better.

Metrorrhagia and Uterine New Growths.—KIREIEFF (*Rev. de Tocol. et de Gynéc. de St. Petersburg*, May, 1892) writes on adeno papilloma of the uterine cavity. He distinguishes two forms. The first bears all the clinical characters of cancer of the body of the uterus; it is pathologically cylindrical carcinoma or adenoid cancer. The second is seen in the disease sometimes termed (or confounded with) "fungous endometritis." Thus Kiréieff observed an extreme case in which the patient, a sterile woman, aged thirty-seven, suffered from metrorrhagia for four years. The uterus rose above the pubes, and was as big as the head of a child of ten. The cervix was shortened. In the uterine cavity a great number of papillomatous vegetations were fouud growing from the uterine wall, and from the lining of the canal of the cervix. The curette did no good, as the vegetations, which bled freely, were too intimately associated with the deeper uterine tissues. The body of the uterus was removed by abdominal section, the cervix through the vagina. Pathologically, the vegetations were myo-adeno-papillomata. This disease, "although very serious, on account of the constitutional debility which it produces, does not directly endanger the patient's life," but Kiréieff insists, nevertheless, that, as in the malignant form, the right treatment is extirpation of the uterus.

Menthol in Pruritus Vulvæ.—Dr. SAALFIELD, of Berlin (*Verhandlungen d. Dermatol. Vereinig zu Berlin*, 1891), has found menthol in a three to six per cent. alcoholic solution, to be more efficacious in this affection than either carbolic or salicylic acid solutions. He also obtained good results from a menthol-lanolin salve.

Curettement of the Uterine Cavity.—GOSSMAN (*Muenchener Med. Woch.*, 1892) thinks there is not much danger in connection with the operation. But we think it not advisable to curette the uterus in the office. It is somewhat like the rash fools who persist in hunting tigers in India on foot—it is only a matter of time with them.

The Treatment of Advanced Extra-Uterine Gestation.—Prof. R. FROMMEL regards this subject from the standpoint of whether it is advantageous or not to wait the death of the fœtus.

When the fœtus is dead the liability to hemorrhage is certainly less, but for all this he does not think it wise to postpone operation. He says:

1. Operative interference is indicated in advanced extra-uterine gestation under every condition.

2. The fœtal sac should always be totally extirpated when possible, and only in cases of necessity should it be sewn to the wound.

3. It is not advisable to postpone operation until the death of the fœtus, but every extra-uterine gestation should be removed as quickly as possible.

Ventro Fixations of the Uterus.—SPAETH (*Meunch Med. Woch.*, 1892) reports ten further cases from Prochownick's Clinic in Hamburg. In all this makes 25 cases. There was not a single death. Twenty-one cases were under observation from seven months to seven years. In 17 cases the uterus remained forwards and the patients were free from symptoms previously complained of.

Schede's method in Hamburg consists in bringing together the fascia of the rectus muscle by means of buried silver wire sutures. The results have been excellent.

We do not think that it is necessary to use silver wire in this operation; silk-worm gut of salmon size is the proper material in such cases.]

Palpation of the Ureters in Woman.—FUTH (*Der Frauenarzt*, Aug. 1892) speaks of the value of palpating the ureters in women suffering from urinary troubles. A case is related in which the right ureter was found thickened, and the corresponding kidney diseased in consequence of an ascending gonorrheal infection.

Intra Uterine Injections of Tincture of Iron.—EICHHALZ. (*Der Frauenarzt*, March 6th, 1892), makes some remarks upon the fatal case of Dr. Pletzer, following intra uterine injections of tincture of iron. He condemns the method in general, but more especially when so dangerous a drug as tincture of iron is used. Chrobak alone has collected eighteen cases of death resulting from the injection of this agent.

Technique of Tamponing the Abdominal Cavity.—D. V. OTT (*Curtlb. fur Gyn.* 1892, No. 32), states that it is much better to make an opening through Douglas' pouch with a blunt forceps, and carry the end of the gauge tampon into the vagina, instead of out through the abdominal wound. He says there is less danger of iodoform poisoning as less gauge is used. The drainage is also better on account of gravitation. And the abdominal wound will heal without any interference from the gauge.

Tripple Lapartomy.—Dr. ODEBRECHT (*Curtlb. fur Gyn.* 1892, No. 34), reports a case of a patient on whom lapartomy was performed three times. In the first instance the left ovary and tube was removed and ventro fixation carried out. Shortly afterwards she returned complaining of pain. The right tube and ovary was then removed. The uterus was found firmly fixed by a short band of tissue to the anterior abdominal wall, it was quite strong. In a few weeks the patient again returned suffering with pain. The abdomen was again opened and the omentum was found adherent to the entire wound in the abdominal wall. This was separated and the patient recovered.

Bilateral Tubal Pregnancy.—In this patient a right-sided ectopic gestation was diagnosed in June, 1890, but she refused operation. At the end of October, 1891, there were signs and symptoms of a similar condition on the left side. Abdominal section was performed. A gestation cyst, of the size of a goose egg, was removed from the left side; and on the right side, surrounded by matter, intestines, etc., was a cavity in which the right oviduct ended, and in which small fetal bones were found. The patient recovered well.—*Zeitschrift für Gebürtshilfe und Gynäkologie, Bund* xxiii, 1890.

Supperative Peritonitis.—W. KORTE gives the results of nineteen consecutive cases of suppurative peritonitis which he has treated during the past two years. He divides his cases into three classes: (1) General septic peritonitis with little exudation and with paralysis of the intestinal walls. These cases are not capable of improvement by direct surgical interference. (2) Suppurative peritonitis without adhesions. (3) Suppurative peritonitis with adhesions. Cases of tuberculous peritonitis, or of peritonitis following internal strangulation or gangrenous herniæ, are not reckoned in the series of cases. In the second and third classes of cases, especially in the latter, much may be done by surgery. Removal of the purulent fluid is advised as the best method of treatment, but washing out of the peritoneal cavity with antiseptic solutions is said to be futile, and is not recommended. By these means abdominal pressure and tension are reduced, and hence interference with the lungs and heart prevented. If the peritonitis is due to perforation of the bowel, and this can be easily seen, closure of the aperture by sutures is advised; but a prolonged search for the aperture in the gut is deprecated. After incision and evacuation of the pus, drainage tubes are inserted. Of the nineteen patients operated upon, six recovered. The ages varied between two and seventy-one years. Twelve of the cases were general peritonitis with fibrinous exudation which formed adhesions. Out of these twelve, six recovered; hence the value of adhesions in these cases is seen to be very considerable. Of the patients who recovered, four were between eighteen and thirty-one, while the fifth was forty-nine, and the sixth fifty-six. As regards the time of the operation, sixteen were operated upon before the end of the fourth day from the commencement of the symptoms; the remaining three were operated upon at a later period. Of those operated upon before the fourth day, six recovered, while all those operated upon after this died. In two cases the peritonitis came on after reduction of hernia, in two after perforation in typhoid, in two after rupture of the bowel, in one after perforation from an ulcer of the stomach and in three after injury to the abdomen. The operation was always carried out by the median incision in the linea alba, and when the purulent collection was reached it was mopped out with tampons of wool. Recovery was delayed in many cases, and further incisions were required. In some cases intestinal fistulæ formed, which either healed spontaneously or were submitted to further operation. For these cases the continuous water bath is advised. Korte kept some in this for five days with considerable advantage.—*Berl. klin. Woch.*, No. 31, 1892; *Br. Med. J.*

Extra-Uterine Pregnancy.—At the meeting of the Gynecological Congress, at Brussels, September 16, 1892, A. Martin, of Berlin, read a paper on this subject. His conclusions were: 1. The ætiology of extra-uterine pregnancy remained, to the present day, veiled in the deepest obscurity. Certain hypotheses already advanced only explained isolated cases in a manner which did not defy criticism. The question could not be settled until the physiology of impregnation was better understood. 2. Most frequently the ovum was implanted in the tube. Ovarian attachment was less rare than recently supposed. Abdominal insertion of the ovum remained doubtful. 3. The diagnosis of ectopic gestation was a diagnosis of probability, except in cases where we could observe the development of the fetal sac outside the uterine cavity, or the development of an intra-uterine decidua without any distinguishable chorion, or when we discovered the the fetus itself. 4. The evolution of extra-uterine pregnancy rarely ended in retrograde metamorphosis (lithopedion mummification) without any intervening accident. As a rule, the death of the ovum occurred through hemorrhage into the fetal sac, or into the ovum itself. The blood escaped into the abdominal cavity, either out of the ostium of the tube (tubal abortion, properly so called), or by rupture of the tube, in its continuity, into the peritoneal cavity or broad ligament. The hemorrhage only ceased in exceptional cases. In most instances death occurred either from anæmia or from a peritonitis, the precise nature of which remained obscure. Ectopic gestation should always be reckoned as a dangerous neoplasm, and treated accordingly. Cases of development to term were so rare that to respect the interests of the child was to neglect totally those of the mother. 5. Consequently it would appear that operative interference, undertaken as soon as possible, was the right course in all forms of ectopic gestation. The fetal sac should be extirpated if possible. Treatment by hypodermatic injections of morphine cured very slowly. Treatment by electricity could not yet be rated at its true value, as hitherto recorded observations on this method were not above criticism.

Electricity in Uterine Disease.—The following discussion is worthy of being published in full as showing the feeling at present existing in the minds of some of the most respected specialists in the union, regarding the treatment of uterine disease by means of electricity.—In *N. Y. Journal of Gyn'y. and Obst.*, Feb., 1892.

Dr. BACHE McE. EMMET presented the specimen.

He said: The specimen which I here show is an immense uterine fibroid removed with the uterus entire on Saturday last: the ovaries, which are cystic, are also shown.

The patient from whom I removed these organs is forty years of age, nullipara; ten years ago she first noticed a growth the size of an egg directly in the centre of the hypogastrium, just about the fundus of the uterus. This grew rapidly until, when I saw her for the first time, two years ago, the growth had attained its present dimensions, size of uterus with child at full term.

At this time, I used powerful galvanic currents (250 milliampères) by thrusting two needles directly into the tumour through the abdominal wall, patient being under ether, of course. This I repeated, I think, six times at two weeks' interval. Some impression was made upon the growth at that time, and the symptoms of weight were much improved, so much so that the patient felt she could give up treatment, and her favourable condition did presist until recently.

She came back to me October 14th, telling me that her menses have been profuse and that she is very materially larger. I at once begin with the galvanism again, but this time applying it with the abdominal plate and vaginal balls. (It has been impossible to pass a sound into the uterine cavity.) I make long sessions with mild current; and from this time out I also restrict her to the Cutter diet. At two days' interval of treatment, by October 26th, some favourable action had been produced; the sensation of weight was much diminished, and a period which has just taken place was scant and lasted only two days.

In spite, however, of the local benefit produced, which was pretty continuous for upwards of a month, the patient began to lose her appetite, to fail in strength and flesh, and, finally, to complain of constant pain about the uterine mass, more especially at one point on the left side where there had been a recent development of a nodule. This decided me to lay before her the possibility of relief by extirpation and she consented.

This mass presents a large cystic portion on the anterior face, while the remainder is all firm and nodular, and, in view of the rapid failing of the patient during the past month with symptoms of septic cachexia, the question presents itself to my mind, and I would like to offer it as a subject for discussion, whether, once we have failed to produce any considerable benefit by the use of galvanism, it is not wiser to desist entirely and change our course in that, as I fear, we cause a rapid disintegration of tissue by electrolysis and subject our patient to sepsis which may prove fatal.

Dr. CURRIER thought that treatment by electricity, which had been mentioned by Dr. Emmet, could not be thrown aside as of no use, whatever might be one's predilections upon that subject. With many patients the thought of submitting to a dangerous operation was extremely repellant; they had to be educated up to its acceptance, and meanwhile, one should not through perjudice close his eyes to the power of electricity to at least temporarily lessen the profuse hæmorrhage and assuage pain. He referred to a few cases in his own practice in which galvanism controlled for a time hæmorrhage and the more urgent symptoms until the patient could be reconciled to the thought of an operation. In one the negative pole, by mistake of the instrument maker, was applied within the vagina and no benefit was derived, but when the positive electrode was introduced the hæmorrhage at once became less. The third case which he related was supposed by himself to be beyond relief by galvanism, yet it did for a time control pain, but later he operated and removed a sarcoma which, with the uterus and ovaries, weighed between thirty and forty pounds. He must, then, differ from those who believed that electricity always did harm.

Dr. BOLDT inquired of Dr. Emmet whether he wished to raise the question of the use of electricity in these cases.

Dr. EMMET replied that electricity had been employed in this case, and he questioned whether, judging by the appearance of the tumour, it would not have endangered the patient's chances by causing sepsis had it been persisted in.

Dr. BOLDT said he was convinced that electrolysis was one of the most dangerous of therapeutic agents. It was liable to produce just the conditions to which Dr. Emmet had called attention. The tumour underwent changes, was liable to break down by suppuration and cause septicæmia. This had occurred in cases which had come under his own observation, and he knew that it had in others. If electrolysis did not give relief, and the symptoms continued, he would not continue it, but would abandon the case unless an operation was granted.

Dr. WYLIE thought the question was certainly a practical one and also a very important one. He had never said much about the use of electricity in cases of fibroids until he had personally made it a study, and had had his first assistant study it two summers under Apostoli. He had reached these conclusions: That if electricity were used not as a destructive agent it gave practically no good results. It would sometimes control hæmorrhage, but in order to accomplish anything it had to be used so strong as to be destructive. But when used in that way it was, as had been shown in a number of cases operated upon subsequently, a dangerous method. If it were used as a cautery to the mucous membrane of the uterus it would stop hæmorrhage from that source, but he did not think much was to be gained by this mode of treatment. The hæmorrhage being due almost without exception to fungous growths, curettement, if it could be applied, would be more effectual and involved less risk. And to attempt to destroy the tumour with electricity was dangerous. Then, too, many cases were complicated, and if electricity were used it might prove very dangerous. For instance, in a number of cases it had been used, and in many others proposed, where there was pyosalpinx. In one of his fatal cases from operation the result was largely due, he believed, to the fact that the patient had, during two years' treatment by electricity at the hands of another, become greatly reduced and could not be built up so as to withstand an operation. He had seen cases of large hæmatocele and local peritonitis produced by electricity.

Dr. H. MARION Sims believed that electricity used in the treatment of fibroids was productive of a great deal of harm in the vast majority of cases. In 1877, when electrolysis had something of a " boom," he purchased a fine apparatus and became quite enthusiastic over the treatment of fibroid tumours by electro-puncture, through the anterior abdominal wall or *per vaginam*. On looking back over that experience he could recall only one case in which the treatment had had the slightest beneficial effect. The one exception was in the case of a young lady from Arizona, in whom, after five or six months, the tumour shrunk to about two-thirds its former size and she said she felt much better. These remarks applied to large tumours. He had seen several small ones benefited by the treatment.

With regard to electro-puncture causing the breaking down of nodules into pus cavities within the tumour and producing blood poisoning, he could recall four cases of the kind with most disastrous results occurring within the last three years. The treatment had been made by experienced men. One patient whom he had seen last week had been under the care of an enthusiast in electrical treatment, and was then discharging immense quantities of pus through the rectum, due to breaking down of the fibroid mass within the pelvis. The odour was very offensive, and the patient was then very anxious to have something done in the way of an operation. In the case of a tumour which he had removed by laparotomy and which previously had been treated by electricity, he found it completely honeycombed by small abscesses. In another case, the patient had undergone treatment for two years by electrolysis, Dr. Pryor performed laparotomy and found the tumour had undergone a change similar to that in the other case named; it was rotten to the core. Only by prompt surgical interference at a certain stage of the symptoms was the woman's life saved.

Correspondence.

A CASE OF WOUND OF THE ABDOMEN.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

Through the kindness of my esteemed friend, Dr. O. K. MacLean, of West Bay, C.B., I am permitted to publish the following abridged notes from a full and concise report prepared by himself, of a case which occurred in his practice during the sum- of 1891.

On Saturday, October 12th, of that year, a lad aged 12 years, while driving a truck loaded with hay through a gate, was suddenly squeezed with great violence between the truck shaft on one side and the gate-post on the other. He was carried to a farm house hard by, and, on being stripped of his clothing, it was found that from a large wound in the right side a mass of intestine was protruding. Fruitless attempts were made by a young man present to reduce the intestine. Meanwhile, a messenger had been sent after Dr. MacLean, who, on his arrival at the scene of the accident, discovered that a wound of six inches in length had been made about the level of the floating ribs, and from which a large knuckle of the colon, distended by its gaseous contents, protruded. It, together with the surrounding wound, was irrigated with a solution of corrosive sublimate and reduction quickly effected, after first squeezing the bowel so as to force the contained gas back into the main body of the intestine. From the jagged depths of the wound a venous hemorrhage followed, which was checked by the pressure of a small piece of sponge charged with a strong solution of lunar caustic.

The wound was then dressed on the usual surgical principles, small quantities of liquid food permitted and an opium suppository having been introduced into the rectum, the patient was left for the night. On returning next morning from his home, a distance of twelve miles, Dr. MacLean was informed that the lad had voided a large quantity of bloody urine. Counter irritation over the kidneys was effected, and one-tenth grain of calomel administered hourly, when purgation followed in four hours. I should have stated that after reduction of the bowel an injection of warm water had been given to relieve any invagination or other mal-position which it might have acquired.

During this and succeeding days the pulse reached 120 per minute; temperature, 102. Slight delirium occurred and previous to the use of the calomel violent vomiting was almost continuous.

The case continued to improve steadily until three weeks later, when two small pieces of bone presented at the orifice of the now quickly healing wound, followed in a short time by the passage into the external wound of an intestinal worm six inches in length! Thereafter the case improved rapidly, and to-day the boy is evidently as well as ever.

The following is Dr. MacLean's explanation of the sequence of events, and, with him, I think most observers would agree:— "Perforation could not have been present just after the accident, for the intestine was *distended*. It is probable that a small splinter of bone, by friction against the bowel, produced ulceration and subsequent perforation." It is a fact to be noted that at no time before or after perforation did any fæcal matter escape from the wound. Dr. MacLean attributes this patient's recovery to the fact that adhesions formed between the visceral and parietal peritoneum, thereby preventing the escape of poisonous matter into the general peritoneal cavity.

C. P. BISSETT, M.D.,
St. Peters, N. S.

TWO KINDS OF RING-WORM FUNGUS.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIR,—In September of last year, I sent you a short account of some of the more recent, and in my opinion, successful methods, adopted in the special skin departments of the various London hospitals, for the treatment and cure of tinea tonsurans, as usually seen in children.

Since then, I have had the opportunity of studying the results of some very interesting and elaborate cultivation experiments, with the tricophyton fungus, carried out by M. Sabourand, house physician to M. le Dr. Besnier, at the St. Louis hospital, and I propose giving your readers an account, in as few words as may be, of some of the important clinical results which these experiments seem to point to.

The experiments themselves, including as they do the most careful examination of one hundred typical cases of tinea, and the preparation of over six hundred cultivations of the fungus on various media, are much too numerous to be described here.

M. Sabourand has found that nearly all cases of tinea, in Paris at least, are produced by one or other of two kinds of tricophyton, which he has called respectively, T. macrosporon and T. microsporon.

These two kinds of fungus he believes to be specifically distinct, and to be distinguishable not only in cultivations on different media, and under the microscope, but also clinically. The histological difference is as follows: The T. macrosporon shows large spores lying in a visible mycelium, arranged in definite lines in the mycelial branches, and these spores are for the most part included in the hair itself. The T. microsporon, on the other hand, shows small spores not lying in a visible mycelium; the masses of spores are arranged without order, in some places filling the hair, and elsewhere forming a sort of sheath around the hair.

The investigation of the clinical differences is still being actively carried on, but some of the results already obtained are very interesting and curious—thus, both varieties affect the hair of children and produce ringworm of the scalp, the large spored variety being responsible for a little more than one-third of the cases, and the small spored for nearly two-thirds. These proportions are those found in Paris, but it does not at all follow that the same proportions exist elsewhere; indeed, for many reasons, it seems highly probable that the percentage of T. microsporon cases is much greater in Paris than it is in some other cities. On the other hand all cases of tinea of the beard and of non-hairy parts are found to be due to the large spored variety (T. macrosporon) and to it alone.

Again, from the point of view of treatment, the T. microsporon is much more obstinate and rebellious to all forms of treatment than the large spored variety. Thus at the school for children affected with ringworms, at the St. Louis Hospital, nearly all of those who had resisted treatment for upwards of a year were found to be affected by the small spore fungus.

While there are no doubt other species of trichophyton, *e.g.*, that producing the well-known tinea imbricata in the East Indian and Pacific Islands, it may be accepted as proved that these two kinds are those responsible for about 98 per cent. of all cases of ringworm occurring in France.

It will at once be seen how important these results are from a practical point of view. Where, for example, ringworm of the head is associated with ringworm on the body or limbs, as is so frequently the case in children, we shall be able in future to pronounce at once for the T. macrosporon, and with efficient treatment to hope for cure in two or three months' time ; whilst on the other hand, if the microscope reveals the small spored kind we shall be advised of having a most chronic and rebellious condition to deal with.

As this is necessarily a short and somewhat imperfect account of the important investigations being carried on by M. Sabourand, it may be as well to refer anyone interested in the subject to the *Annales de Dermatologie et de Syphilographie*, for December, 1892, where a much fuller account of the numerous cultivation experiments made is given by M. Sabourand himself.

Yours very truly,

RANKINE DAWSON.

Reviews and Notices of Books.

A Manual of Bacteriology. By GEORGE M. STERNBERG, M.D.; 886 pages. New York, 1892: Wm. Wood & Co.

To write a comprehensive manual of bacteriology is a labour which bacteriologist after bacteriologist, however capable and however much he may have felt the need of some standard work of reference, has very naturally shrunk from undertaking. His subject is advancing with such leaps and bounds that naturally he has feared to see his work if completed and published become rapidly out of date. The literature of his subject has reached such dimensions that it requires a man endowed with much determination, a great organizer and an adept in the art of precis-writing, to master the task, while added to this there is such feverish activity displayed by his fellow workers that he may well pause before deciding to devote long months to the labour of recording the discoveries of others, in place of himself adding to the number of these discoveries. Now at length the work has been accomplished, and Dr. Sternberg deserves, and will certainly receive, the gratitude of all English-speaking bacteriologists for having summoned up courage to carry through upon so excellent a plan that which all others have refused to venture upon. In this manual we at last possess an authoritative and very complete book of reference. Others writing in German, French and English may have dilated more fully upon the technique of the subject, upon its history, upon the classification of microbes, and upon this or that aspect of bacteriology, but not until now has anyone covered the whole ground with the sureness and power as has the author of the manual before us.

Dr. Sternberg divides his book into four parts, the first dealing with classification, morphology and general technology; the second with the general biology of bacteria; the third and largest (326 pages), with the pathogenic, and the last with the saprophytic bacteria—those found in the air, water, soil, food and putrefying substances. Following upon these he gives two most valuable sections, the one upon bacteriological diagnosis, wherein he tabulates the various work upon the micro-organism of croupous pneumonia, and his priority in the discovery of the same, has been passed over by writer after writer, so too his views upon the defensive action of the leucocytes, and upon phagocytosis, in which he anticipated Metchnikoff. The chapter in which he details these early views and studies—that upon Susceptibility and Immunity—is throughout excellent. I know of no better and more sober and impartial criticism of this most interesting subject than is here contained. The author takes what seems to me the only possible course, a "via media" between the opposing schools. He freely admits the importance of Phagocytosis, at the same time he sees that this will not explain everything, and that possibly the blood-plasma can contain antitoxines, the bodies that is, which antagonise the toxines produced by the pathogenic bacteria in their growth within the body. It would have been interesting had he given to us his opinion as to the site of origin of the antitoxines. There they undoubtedly are, but where do they originate? How is it that they are present in far larger quantities or are much more active in the blood serum—after removal from the body—than in the circulating blood plasma?

I have written so much upon Dr. Sternberg's exposition of the general principles of the subject as to leave little space for criticism upon what will be the most valuable portion of his work—for workers: I mean his detailed accounts of the various species of bacteria. Suffice to say, that the value of these lies in the care with which he has collated the authorities upon each separate form, so that the morphological, cultural, and other characteristics of each, are set down with a conciseness and accuracy which must render this the standard work of reference. When it is taken into account that nearly 500 separate forms are described, the descriptions epitomising the monographs of the original authorities, some idea may be gathered of the magnitude of the task which Dr. Sternberg has so successfully accomplished. Little wonder that the author has confined himself to the Schizomycetes, and has not included in this work any account of the moulds—pathogenic and otherwise—or of the microbic animal parasites, such as hæmatozoon malariæ, the sporozoon or the amœba coli. Between the bacteria and the moulds he has found it difficult to draw the line, thus he includes the microbe of "Farcin de bœuf" among the bacilli. I believe I am justified in stating that Nocard, its discoverer, now recognises the hyphomycete nature of this. A study of its growth and stages of development assuredly lead us to place it very close to forms such as the Actinomyces. It is to be hoped that a companion volume, treating worthily of these other pathogenic microbes, will not be long in making its appearance.

I feel that it is almost ungracious to criticise individual small shortcomings in a work which, as a whole, merits such high praise, yet I think that our very appreciation of it may be taken as an excuse for pointing out details which might with advantage be emended in the next edition. I would suggest that bacteriologists in general would forgive Dr. Sternberg were that next edition less sumptuous; were the paper not so thick; the large type somewhat smaller; the tables at the end in double columns; were the volume rendered altogether more handy. In making this suggestion I speak feelingly, for having borne the book to and fro several times during the last month I have found it to be indeed weighty in more senses than one.

A last word deserves to be said with reference to the illustrations which, whether woodcuts, photographs or coloured plates, are uniformly good. Altogether we owe a heavy debt of gratitude to Dr. Sternberg.

J. G. Adami.

The Anatomy and Surgical Treatment of Hernia.

By Henry O. Marcy, A.M., M.D., LL.D., late President of the American Medical Association, etc. Illustrated with seventy full page heliotype and lithographic reproductions from Cooper, Scarpa, Cloquet, Camper, Darrach, Langenbeck, Cruveilhier, and others of the Old Masters, and thirty-four woodcuts in the text. New York: D. Appleton & Co.

The anatomy of the parts involved in the different herniæ is described at length by the author, and also the causes tending to the production of this condition. The remarks on instrumental supports are very timely and useful in these days when new trusses are being continually devised. As the author says, little real advance in the art of truss-making has taken place since the days of Sir Astley Cooper, and the advice given by the latter to apply the pressure over the internal ring still holds good; indeed his description of the truss is as applicable now as in his day. Irreducible and strangulated herniæ are taken up under their proper headings, according to the ring by which they have exit. The rarer forms of hernia, as ischiatic and diaphragmatic hernia and hernia of the foramen ovale, are dealt with and cases cited. The necessity of promptness in undertaking any operative procedures is urged and the fatal consequences of delay are graphically detailed. "There can be but one rule, and it is impossible to emphasize too greatly its enforcement, regardless of the variety of hernia or the causes which have led up to the strangulation of a portion of the abdominal contents. Each hour of delay in its reduction adds to the difficulty of its accomplishment, and almost in geometric ratio increases the danger to life." Chapter XXIII on the animal suture is a complete exposition on the subject, giving the history and use of such ligatures up to our own time. Kangaroo tendon is given the preference as the most reliable substance, the author quoting, "Tendon ligatures are of uniform and trustworthy composition, fashioned by the hand of Nature, instead of being prepared by a process involving an uncertain amount of decomposition." The history of modern antiseptic methods, both in Europe and America, is given, as well as the results. The conditions rendering operation necessary and the best operation to perform are discussed very clearly, statistics being given in proof of the assertions. Dr. Marcy has performed his task in a most creditable manner and the book is published in a manner worthy of him.

An American Text-Book of Surgery for Practitioners and Students. Edited by William W. Keen, M.D., LL.D., and J. William White, M.D., Ph.D. Profusely illustrated. Philadelphia: W. B. Saunders.

This book is the work of thirteen of the best known surgeons in America. The articles are all unsigned and the entire book was submitted in proof-sheets to all of the authors for mutual criticism and revision. The result is the book before us, and it may be fairly taken as an expression of general surgical opinion of the present day on this continent. The work is made up of four divisions on (1) General Surgery, (2) Special Surgery, (3) Regional Surgery, (4) Operative Surgery. Much of what is recorded in these pages is new, being the result of the experience and original research of the authors. The opening chapters on surgical bacteriology, inflammation and its results, are excellent resumés of the present state of knowledge of these subjects, and the same spirit pervades the whole book. The illustrations are in keeping with the text, and having had the privilege of seeing some of the cases and specimens from which they were taken we can testify to their accuracy as well as their artistic merit. Although this work has been issued only a few months it has had a phenomenal success. Forty-nine medical colleges and universities have adopted it as a text-book, and nearly five thousand copies have been sold. Such a record speaks more for the excellence and usefulness of the work than anything we can say.

The Diseases of Children, Medical and Surgical.

By Henry Ashby, M.D., London, F.R.C.P., and G. A. Wright, B.A., M.B., Oxon, F.R.C.S., England. Second edition edited for American students by Wm. Perry Northrup, A.M., M.D. Longmans, Green & Co., New York and London, 1893.

Among the many excellent additions, during the past few years to our literature on diseases of children, this book deservedly occupies a prominent place. Written conjointly by a physician and surgeon, it represents an unusually extensive experience in one of the large English hospitals for children, an institution in which some 1,200 in-patients, and 10,000 out-patients are treated annually. Careful systematic records have been kept of all their cases, and these are utilized throughout the work to illustrate the text. As a result we have an eminently practical work, in which the authors place before us, not only the result of their own observations, clearly stated, but also the result of the more recent researches both in Europe and America. In the opening chapter an excellent resume is given of the physiology of infancy and childhood. Infantile hygiene and dietary is carefully treated, and full reference is made to the important contributions on this subject by American investigators, especially Rotch and Meigs. The amount of disturbance produced by dentition, they assert, will depend much on the infant's strength. A strong vigorous infant, brought up at the breast, will cut its teeth one after another without trouble, but if the infant is rickety, weakly, or the victim of hereditary tendencies, the period of dentition will be a period of danger. Under certain conditions they recommend the use of the gum lancet. In the article on [illegible] the authors condemn the use of [illegible] in the early stages as useless and harmful, and recommend strongly the use of antiseptic remedies in the hope of lessening [illegible] changes and preventing the development of [illegible]. We regret that more reference is not made to the value of [illegible] and occasionally the stomach. [illegible] absolute [illegible] the use of enemata. A means of [illegible] hands the applied [illegible]

[illegible]

4. Frequency of complication with abdominal tuberculosis.
5. Comparative rarity, as compared with that of adults of extensive cavities in the lungs.

The section on diseases of the nervous system is very complete, and the remarks on treatment eminently practical.

The chapters on the surgical diseases of children are well illustrated both by engravings, and the histories of illustrative cases. Separate chapters are devoted to disease in the nose, ear and skin.

Chapters on injuries, hæmorrhage and anæsthetics end the work.

The appendix is written by Dr. Northrup, of New York.

In his addition the editor strongly recommends the use of calomel fumigations in the dyspnœa of membranous laryngitis. These fumigations should be given every two or three hours, for periods not exceeding fifteen minutes. Nurses he says may be salivated if unduly exposed, but children rarely are. In general much benefit is experienced. As a heart stimulant in pneumonia and diphtheria he speaks highly of the combination of strychnine, digitaline and aconitine, given in the dosimetric granules prepared by Chantraud of Paris. The various orthopædic apparatus in use in the New York hospitals are described, and at the close a series of formulæ are given suitable for infants and children. We have much pleasure in strongly recommending this book. It is pleasantly written, the engravings are numerous and well executed, and the mechanical execution is faultless.

A Dictionary of Psychological Medicine—Giving the Definition, Etymology and Synomyms of the Terms used in Medical Psychology, with the Symptoms, Treatment and Pathology of Insanity, and the Laws of Lunacy in Great Britain and Ireland. Edited by D. HACK TUKE, M.D., LL.D., Examiner in Mental Physiology in the University of London; Lecturer on Psychological Medicine at Charing Cross Hospital Medical School. Vol. I and II, Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street, 1892.

This extensive work in two volumes covers the entire range of psychiatry and allied subjects. Although in the form of a dictionary it is not by any means a work treating of the different subjects in a fragmentary manner; on the contrary all important conditions are dealt with in a very complete, and we may say also in a very able manner. Among the contributors we find many of the leading chemists and neurologists of Great Britain, Germany, Italy and France. Clifford Allbutt, James Anderson, Thomas Barlow, Blandford, Buzzard, Clouston, Victor Horsley, Bevan Lewis, Charles Meicier, Julius Mickle, Savage, D. H. Tuke, J. Batty Tuke, Francis Warner, are a few among the many English contributors. The work is especially adapted for the needs of the general practioner. It contains all the information he is likely to need in connection with the diagnosis and treatment of mental diseases.

Tuberculosis of Bones and Joints. By N. SENN, M.D., Professor of Practice of Surgery in Rush Medical College; Professor of Surgery in the Chicago Polyclinic; Attending Surgeon Presbyterian Hospital; Surgeon-in-Chief St. Joseph's Hospital; President of the American Surgical Association; President of the Association of Military Surgeons of the National Guard of the United States; Permanent Member of the German Congress of Surgeons, etc. Illustrated with 107 engravings (seven of them colored). In one handsome royal octavo volume; 520 pages. Philadelphia: The F. A. Davis Co., Publishers, 1231 Filbert street.

The author has collected all the modern ideas on this subject and, after submitting them to the test of his own experience, has given them to the world in this volume. Of the importance of the subject we need not speak, especially as these diseases are becoming more common all the time. The diagnosis and pathology are fully discussed and considerable space is given to the treatment, especially by operation. The treatment by rest might with advantage be dealt with at greater length, but in compiling such a mass of information it is difficult to decide what to leave out and what to retain, while keeping the book within reasonable limits. Tuberculin treatment is described, but only to condemn it utterly. The ultimate results of operation according to different observers are given, and the prognosis of the various tubercular diseases of the bone and joints fully dealt with. In short, the book is an excellent epitome of the present state of our knowledge of this subject, and should be read by all who are interested in this disease.

Twenty-Third Annual Report of the State Board of Health of Massachusetts.

This report contains the general work of the State Board of Health for the year ending September 30th, 1891, together with certain papers on special topics relating to public health.

It contains a large amount of interesting information regarding water supplies throughout the State, sewage and the filtration thereof, food and drug inspection, and much more of like import. The special reports are particularly valuable, and in a future issue we will publish extracts from them, as in the limits of an ordinary review we cannot do justice to this report.

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Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 9th, 1892.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Paramyoclonus..—DR. **STEWART** exhibited a middle aged patient, who has been affected with a peculiar myoclonic trouble for upwards of fifteen years. The spasms which are almost constantly present are partly clonic and partly tonic in character. They affect the muscles of the neck, face and trunk only—the extremities being free.

Dr. **LAFLEUR** asked if there was any hereditary history and if the case might be one of senile or Huntingdon's chorea.

Dr. **STEWART** replied that as far as he could ascertain there was no neurotic family history. It was not a case of Huntingdon's chorea, which is characterized by the sliding, jerky movements in walking and which are entirely distinct from the movements in this case.

Acute Hæmorrhagic Pancreatitis with Fat Necrosis—Glycosuria; Symptoms those of Peritonitis.—Dr. **FINLEY** exhibited the specimens and stated that the case had been looked upon as one of peritonitis. At the autopsy there was no evidence of peritonitis or obstruction. A distinct mass in the position of the pancreas was felt and on removal the organ was seen to be greatly enlarged, weighing 380 grams. On section the gland was studded with numerous purplish-colored hæmorrhages, varying in size from a small pin head to one-fourth of an inch in diameter. A number of small round opaque white areas, like tallow, representing fat necrosis, were present on the surface of the gland and a few scattered through its substance. None of these were larger than the size of a split pea. There was no fat necrosis in the omentum, but a few small areas in the immediate neighborhood of the pancreas. Some of the fat lobules were surrounded by a fringe of this necrosed fat. There was a small thin patch of lymyh lying on the surface of the organ. The mesenteric and splenic veins were normal.

A specimen of the urine analysed by Dr. Ruttan was found full of mucin, no albumen, sugar 1.66 per cent., no acetone, no diacetic acid, urea 8.5 grs. to fl. oz., bile pigments and bile salts in excess. The usual symptoms of this affection were those of peritonitis. One of the most interesting features of the case was the presence of sugar in the urine, and so far as he could ascertain no previous mention of this was recorded.

In view of recent investigations on pancreatic diabetes it was not unlikely that sugar might prove to be a constant constituent, and if so would be a valuable diagnostic sign. The presence of bile pigment might perhaps be referred to pressure on the common bile duct by the enlarged pancreas.

Fat necrosis has been frequently noticed in hæmorrhagic pancreatitis, but its significance is not altogether clear. It has been explained by some as due to trophic changes from interference with the nerves of the solar plexus, and by others it is regarded as due to pressure interference with the vascular supply.

REPORT BY DR. J. G. ADAMI.

Upon section the pancreas as a whole was of darker colour than usual, and presented several blackish blood stained areas varying in diameter from 3 to 12 millimetres. That organ was surrounded by a moderate amount of fat, having an abnormal appearance, for scattered over its surface and through its substance were small whiter masses, differing also from the rest of the fat by their opacity. The periphery of the gland was altered, there being no well defined boundary between the gland and its investing fatty tissue.

Microscopic examination showed that the gland had undergone much chronic degenerative change; it was fibroid, and presented abundant evidence of atrophy of the panereatic follicles. This was especially marked towards the periphery. Here were numerous small regions in which fat cells replaced the atrophied gland tissue. The hæmorrhages into the gland were of sufficiently long standing to have permitted the staining of the cells of the affected areas with blood pigment. Sections made by the paraffin method and stained with hæmatoxylin showed well the extensive fat necrosis, both within and around the gland. The necrosed fat cells contrasted clearly with the unaffected in that they took on a diffuse cloudy stain.

It was noticeable that while there were evidence of acute inflammation here and there throughout the fatty tissue, there being slight infiltrations of small round cells between the fat cells, nevertheless, these inflammatory foci were not in direct association with the necrosed areas. Between the necrosed cells no infiltration was discernable. The extravasated lencocytes lay between clear unaffected cells at some little distance from the patches of necrosis. In this the sections resembled those brought recently before the Pathological Society, of London, England, by Dr. Rolleston (*British Med. Journal*, Oct. 22nd, 1892, p. 895), and differed from the description generally given (Fitz. *Med: News*, Feb. 23rd, 1893.)

Thus the sections suggest forcibly that the pancreas in this case had been the seat of long continued changes. The fibroid degeneration, the atrophy of the pancreatic cells proper, the presence of fat replacing the atrophied tissue, all point to this conclusion. The hæmorrhages and the small foci of inflammation are evidences of more acute disturbance of the organ during the days immediately preceeding the fatal issue. In the absence of satisfactory observations upon the rate at which fat necrosis proceeds it is not possible to state with certainty whether this necrosis is associated with the acute lesions of late date or whether it had preceded these in its onset. This case, at least, does not show us that the necrosis is a direct result of acute inflammation.

Dr. James Bell said that he had been hurriedly summoned to the hospital to see the man who was supposed to be in an advanced stage of peritonitis. History given was that on Tuesday night he had been awakened by a cramp in the stomach, but he went to work on Wednesday morning, but was compelled to go home by the pain in the abdomen. When brought to the hospital there was great pain with distention and tenderness of the abdomen, inability to move the bowels, vomiting and, in fact, all the signs of a general septic peritonitis. He (Dr. Bell) considered the case hopeless and was greatly surprised at the result of the autopsy.

Dr. J. A. MacDonald had seen the case before he went into hospital and thought that it was one of peritonitis; one feature was the great difficulty in passing urine and the diminution of the quantity.

Dr. **Lafleur** referred to a similar case that had been under the care of the late Dr. Ross and had been reported before this society (Montreal Medical Journal, vol. 17, page 380). The patient had suffered for a time from obscure dyspeptic symptoms and one day was suddenly taken ill with symptoms of general peritonitis and died. The conditions found were the same, though more intense than in this case, some of the hæmorrhages were recent, while some were old and almost fibroid. He could not say if there had been fat necrosis, as that condition was not recognized at the time. Fitz, of Boston, has written more than anyone else on the subject of fat necrosis, and in performing coroners' autopsies has found that a number of sudden deaths in the streets were due to this cause. He (Dr. Lafleur) asked if the veins in the splanchnic area were dilated, for he thought if such was the case the pressure on the cœliac ganglia might have been the immediate cause of death.

Dr. **Smith** asked if there were other hæmorrhages throughout the body, and how was it known that the spots were fat and not transformation of blood clot into fibrous tissue. Could the hæmorrhages be due to septicæmia.

Dr. **Finley**, in reply to Dr. Lafleur, said that the veins of splanchnic area were not dilated. In reply to Dr. Smith, said the spots had been analyzed and found to contain stearine and fat crystals, they were distinctly fatty and not fibrous.

Case of Symphysiotomy.—Dr. **Springle** read the report of this case which appeared in the January number.

Dr. **Wm. Gardner** congratulated Dr. Springle for having performed this operation for the first time in Canada. It is a procedure that is bound to become popular, and is another of the revivals in surgery brought about by the introduction of antiseptics.

Dr. **Smith** thought the operation a safe one and presented but few difficulties. He understood how that it will increase the total circumference of the inlet, but did not see how it would increase the antero-posterior diameter.

Dr. **Shepherd** thought that a future pregnancy might be affected. He had in his possession several pelves in which the joint is ossified, and thought that after the operation the same condition might be induced.

Dr. **Lockhart** had assisted Dr. Springle, and when he first saw the patient she had been in labour twenty-four hours. The subject for hesitancy was whether the child should be removed by cæsarian section or symphysiotomy (craniotomy not being thought of). The former procedure would have necessitated the removal of the patient to the hospital, thus causing further delay.

Dr. **Gordon Campbell** said that there was no difficulty in showing that the antero-posterior diameter was increased. Taking a line drawn from the promontory of the sacrum to the symphysis pubis as the diameter of a circle passing through these points, after the operation this line will be no longer the diameter, and it is a mathematical law that any straight line drawn in a circle, other than the diameter, is less than the diameter.

Administration of Ether by Clover's Inhaler.—Dr. **Gordon Campbell** read his paper on this subject.

Dr. **Alloway** said that he had been using this form of inhaler for a long time and it has unquestionable advantages over all other forms.

Dr. **George Brown** had been using it for three years and agreed with everything mentioned in the paper. With men there is generally a stage of rigidity and the administration takes longer than with women. He has used the cone and Allis' inhaler, with which there is usually fear and struggling, whereas with Clover's, patients take the ether quite easily, and at a subsequent administration receive it with less fear. He thought that there was less vomiting and less depression after administration, and he never had any ill effects during an operation, except now and then a spasm of the glottis, which is at once relieved by raising the hyoid bone and pushing forward the jaw.

Dr. **Wm. Gardner** was first induced to use Clover's inhaler by having seen it in Mr. Lawson Tait's practice in 1886, and has never willingly used any other form since that time. He has given up the use of a mixture of ether and chloroform and has stuck to pure ether and now sees no reason to regret it. Another advantage is the prevention of the diffusion of ether through the room, which is a great comfort to a sensitive person. He bore testimony to every word Dr. Campbell had said, and had been struck by the extremely short space of time taken by him to anæsthetize the patient, and also the rarity of vomiting on the operating table, which he thought was due to the care of the anæsthetist to the signs of complete anæsthesia.

Dr. **Birkett**, when resident in the General Hospital, had kept a record of eighty cases of the administration of pure ether with Clover's inhaler, and his observations confirmed the remarks of Dr. Campbell. He had used it with all sorts of patients, and it was the most successful method employed.

Dr. **Bell** did not think that there was any difference of opinion as to this method of giving ether, when it was in careful hands, but considered it dangerous in inexperienced hands. A case had nearly ended fatally from the neglect of one point, that of putting ether into the inhaler, and the patient was almost asphyxiated. He could not help but think that the patient must inhale vitiated air from the bag, but the precautions mentioned would reduce this danger to a minimum. He felt that the more concentrated the vapour at the beginning of anæsthesia the better, but the great danger arose in giving too much ether after the stage of complete anæsthesia had been reached, and the respiratory centre may be so blunted that it may fail to act. He admitted the advisability of giving it well diluted at the start, but it should be rapidly concentrated. He had never seen suppression of urine or bronchitis following ether, nor any pulmonary condition, except secretion of mucus.

Dr. **Shepherd** thought from his own observation that the the method was valuable. He did not think that the paper referred to alcoholics, and asked if Dr. Campbell had observed tremors, amounting almost to rigors, which condition would make him stop ether and substitute chloroform.

Dr. McConnell said that every one present seemed to prefer Clover's inhaler, the chief points in its favour being the small quantity of ether used, and the rapid effects; but the latter is a matter of skill in administration. He did not like the idea of re-breathing air. It is a mistake to think that if we use a large amount of ether with Allis' inhaler that the patient gets a larger quantity than if a much smaller quantity is used in Clover's. He thought Allis' is far safer for general use.

DR. WM. GARDNER regretted to have to record a death last summer. The patient was blanched by prolonged hæmorrhage from malignant disease. He had decided to remove the disease through abdominal incision. The patient was at first placed in the lithotomy position, and everything went well for fifteen minutes when she stopped breathing, and soon afterwards the heart stopped; but though artificial respiration was kept up for three-quarters of an hour, she died. In this case he in no way blamed the inhaler or the anæsthetist.

DR. STEWART asked if observations had been made as to the condition of the shallow and deep reflexes.

DR. CAMPBELL, in reply, said that he had seen marked tremors in one case. A recent writer in the *British Medical Journal* had ascribed this condition to asphyxia, and it indicated that ether should be given in a less quantity. He agreed with Dr. McConnell that the patient requires about the same amount of ether to induce anæsthesia, independent of the kind of inhaler used. The skill in using Clover's is very much over-rated, for if one would read the article on the subject in *Treves' Surgery*, he could easily use it. He had had no experience in emergency cases. The abolition of the corneal reflex is not indicative of full anæsthesia, and the reflex from the perineum and anus is the last to disappear. At present he is trying to work out the action of ether on the secretion from the kidneys, and will give the results later on.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

REPORT OF THE SPECIAL COMMITTEE APPOINTED AT THE LAST MEETING OF THIS SOCIETY.

Infectious disease is preventable disease, whether the mode of infection be direct—from person to person—or whether it be indirect through the agency of water, soil or clothing. As such it ought to be prevented. It is for us and for the community at large to use every endeavour towards that end.

Granted that we can recognize surely the nature of a given infectious malady at a sufficiently early date, we can then stay that malady from spreading so as to affect other individuals, we can prevent it from assuming an epidemic character.

Thanks to the bacteriological discoveries of late years, we now possess this power of early diagnosis in connection with not a few of the most important—that is to say, the most widespread and fatal of infectious disorders. We can demonstrate the minute organisms which are the cause of such diseases as tuberculosis (phthisis), typhoid, diphtheria and cholera.

With respect to typhoid, the infection has long been known to be indirect, but now we can determine the presence of the specific bacillus of this disease in the intestinal contents of those suffering from the disease; we can trace its presence in the excreta and in water which has become contaminated by the leakage into it of the sewage of an affected locality, and from this water can trace its passage into milk and other fluids that have been placed in vessels washed in water.

So, too, with respect to cholera. Here also the infectious agent passes often with the excrementitous matter into the water supply of a large area, it may be, and thereby the disease becomes widespread. In this water, as in the intestinal contents, the presence of the minute organisms associated with the disease may be demonstrated. If, then, with any of the above-mentioned diseases the nature of a solitary case be recognized, we can prevent the extension of the disease to others by isolation of the patient, and by rigorous disinfection of excreta, clothing, and of the sick chamber and its attendants. The case will remain isolated.

It is evident, therefore, that the early diagnosis of infectious diseases is of the highest importance to the community.

The more perfect the system whereby each case of infectious disease is promptly notified, and any doubtful isolated cases subjected to careful bacteriological investigation, the greater the security of the community at large, the less the death-roll.

In Montreal, as in every large centre of population, it is necessary in the first place that there be compulsory notification of infectious disease to the central authority—namely, the Medical Health Officer,—and, in the second place, that there be a competent bacteriologist to control the clinical diagnosis of doubtful cases, and to trace bacteriologically the channel by which a given disease has spread from one individual to another.

Taking first the subject of compulsory notification, your Special Committee has learned, with regret, that not a few practitioners in this city have evaded their duties in this respect, and, instead of helping, have thwarted, however unintentionally, the efforts of the Medical Health Officer. At the same time your committee would call attention to the fact that, with his office undermanned, it is impossible for the Medical Officer to perform his duties satisfactorily. A staff of assistants is urgently required, whose duties it would be to gain particulars connected with each case notified—duties which one individual, however willing, clearly cannot perform—duties which unperformed render notification of little avail.

Nevertheless, had each case at the commencement of the recent outbreak of typhoid in our midst been properly notified, the necessity for action in connection therewith would long ago have been discovered.

In the second place, the fact that bacteriology is a very special new branch of medical education, requiring not only special training but also special laboratory appliances, renders it impossible for the ordinary practitioner satisfactorily to undertake the bacteriological diagnosis of disease. It is therefore necessary that there should be attached to the Health Office a bacteriological laboratory in the charge of a well-trained observer.

Your special committee has taken into consideration the question as to whether the bacteriologist and his laboratory should preferably be in connection with the Provincial Board of Health, or with the City Health Office. They hold that while, in view of the very possible invasion of this Dominion by cholera this forthcoming summer, it is undoubtedly of the highest importance that the Province be provided with a competent bacteriological adviser, whose duty it would be to determine the nature of every doubtful case of choleraic diarrhœa, and to advise with regard to effectual disinfection of immigrants and their belongings, nevertheless, since their present mission is to report upon matters concerning

Montreal and its immediate neighbourhood, they must advise that a skilled bacteriologist be attached to the City Health Office. They do this with confidence, in the assurance that the larger question may safely be left to the Provincial Board of Health and its very capable head.

Against the possible objection that Montreal and its officials have no authority over those outside the city's boundaries, they would urge that though they have no direct authority, yet their indirect authority is such that they can become masters of the situation. They can certainly control the city's water supply; and with regard to another potent source of infection, namely, the milk supply, it is in their power to add to the conditions attached to the milk licenses a proviso that such licenses be only granted upon the condition that the city authorities reserve the right to obtain samples of the milk for examination wherever and whenever it seems fit to them, and to peremptorily rescind such licenses permitting the sale of milk within the city boundaries, if it be found that the condition of the stables and dairies is such as to constitute a danger to public health.

A city by-law to this effect is already in existence, but your committee learns that it is rarely acted upon. Your committee is strongly impressed by the necessity for more thorough milk inspection. More is wanted than occasional examination to determine whether milk has been diluted or has been deprived of its fats. No article of food forms a better field for the growth of micro-organisms than milk; and the presence and growth in this fluid of filth bacteria in consequence of imperfect cleansing of utensils, or mixing the milk of different days, of undue care in carriage, appear to your committee amply sufficient to explain a large proportion of the cases of cholera infantum or cholerine which here in Montreal assumes each summer so alarming and fatal a character. Thus the city has the power to regulate the milk supply, and in this and similar ways is capable of controlling the surrounding districts.

Your committee recognize that for the hygienic laboratory attached to the Health Office to be complete a chemical department presided over by a competent organic-chemist is a *sine qua non*. They fear, however, to urge this matter too strongly at the present moment, believing it wiser to demonstrate the necessity of one reform, in the hope that this may be the means of leading to others in the not distant future.

Your committee would therefore submit to the society the following resolutions:

1. That for the maintenance of public health and to prevent the spread of infectious disease, this society emphatically endorses the city regulations which demand that practitioners report each and every case of infectious disease occurring in their clientele.

2. That in the opinion of this society the staff of the Medical Health Officer should be increased in order that the spread of infectious disease be traced and its further advance hindered.

3. That this society urgently requests the authorities of the city of Montreal to appoint a skilled bacteriologist upon the staff of the Health Office, whose duties shall be to investigate the origin and spread of infectious disease within the city in accordance with the resources of modern hygiene and modern medicine, and to advise the office upon the measures to be taken in order to eradicate such disease or to stay its further progress.

JAMES STEWART,
J. C. CAMERON,
J. G. ADAMI,
WESLEY MILLS,
D. McEACHRAN,
F. W. CAMPBELL.

TYPHUS FEVER IN JUAREZ.—During the year ending with June last there were treated in the hospitals 1,320 cases of typhus fever, with 355 deaths.—*Texas Sanitarian.*

Man born of woman is of few days and no teeth, and indeed it would be money in his pocket sometimes if he had less of either. As for his days, he wasteth one-third of them, and as for his teeth, he has convulsions when he cuts them, and as the last one comes through, lo! the dentist is twirling the first one out; and the last state of that man's jaw is worse than the first, being full of porcelain and a roof-plate built to hold blackberry seeds.—*Burdette.*

THE

Montreal Medical Journal.

VOL. XXI. APRIL, 1893. No. 10.

MEDICAL LEGISLATION IN THE PROVINCE OF QUEBEC.

The recent attempt made by certain members of the profession to have a bill passed by the Legislature greatly modifying the present regulations as to methods of study and qualifications for practice in this Province has fortunately been frustrated. The present regulations of the College of Physicians and Surgeons are in many ways antiquated in the extreme and call loudly for change, but not for a retrograde change. The recently proposed amendments were hardly without exception changes in a backward direction. They were entirely founded on French methods of medical teaching—not the French methods of the present day, but those of a quarter of a century ago. French methods differ so essentially from English ones that any medical regulations in this Province founded entirely or mainly on either one or the other must prove an injustice to one of the nationalities. In the recently proposed changes English methods were entirely ignored. The bill was evidently drawn up by men educated after French methods, and that some decades ago. The old system of lecturing was to be continued, laboratory work being practically considered not necessary by the would-be legislators. If there is to be a change in our medical curriculum it must be brought about by an incorporation of what both nationalities consider necessary, certainly not by a one-sided view of medical legislation—otherwise it will be necessary for the English-speaking profession to seek for a separate incorporation.

CIVIC HOSPITAL FOR INFECTIOUS DISEASES

The following letter addressed to the City Clerk, of Montreal, by the Provincial Board of Health, touches upon a vital question,—who should be responsible for the care of cases of infectious disease. Hitherto, this burden has been imposed upon the general hospitals of the city, and to the best of their ability they have responded. But, as stated in the letter, this is a very heavy burden to lay upon any hospital not subsidized by the city, and consequently the work can only be done more or less imperfectly, owing to the very limited means at their disposal. We do not intend to open up and discuss the obligation of the city to care for infectious cases, cases which are a menace to public safety, and notification of which must, under penalty, be sent to the Civic Board of Health. The responsibility in the case of smallpox has been assumed by the city, so why not for the other diseases, diphtheria, scarlatina, etc., which we have always with us. However, the letter speaks for itself, and we trust the agitation will not be dropped until adequate provision is made for the reception, isolation and proper care of all cases of infectious disease :

MARCH 1, 1893.

SIR,—There are in the city of Montreal a large number of persons who, if suffering with a contagious disease, cannot, on account of special circumstances, be properly insolated or cared for in the houses where they fall sick. In this condition are those who live in hotels or boarding houses where they cannot be given all the care required by their illness without exposing to contagion other persons living with them ; those who are in service in public institutions or private families and who, when they are ill, become a burden and even a danger to the families where they cannot be treated and isolated as required ; and, lastly, those who, even in the bosom of their family, cannot be properly isolated and cared for without exposing the other members of the family and the public to contagion. Generally these persons go, some to the hospitals, and others, the largest number, to their own families where, most of the time, they take the germs of the disease, and establish new foci of contagion.

We have numerous examples of this mode of transmission of contagious diseases from the city to country districts and of its disastrous effects. As regards the hospitals, which have done all that was possible for them to do up to date to accommodate the public, the idea cannot be entertained of imposing upon them the obligation of receiving all these cases of contagious diseases. The treatment of those diseases does not come within the compasss of their organization, and they are not equipped for the purpose. It is all very well for the hospitals to have one or two special apartments for the isolation and treatment of the few cases of contagious diseases that may spring up at a given moment among the resident patients, but to exact from them, especially when they are in no way subsidized by the city, that they should place at the disposal of the public a hall for each of the contagious diseases that may occur would be to demand from them the expenditure of thousands of dollars for the construction of a whole department specially adapted for that purpose. The hospitals are not, therefore, in a position to perform these duties, which cannot reasonably be asked from them, and it rests with the city to furnish this accommodation to the public by placing a special hospital at their disposal. Besides, that is what is done in most of the other cities. The city of Montreal has already a hospital solely devoted to smallpox and which, consequently, has been constructed in a single building, instead of being built on the isolated pavilion system, as it should have been, had it been intended for the separate treatment of several contagious diseases. This hospital, which cost a large sum of money is now used only at rare intervals when a case of smallpox develops. However, there is still one way of improving the position, and that is to build an isolated pavilion for the treatment of the first cases of smallpox that may arise, and to utilize the present large hospital, making, of course, the necessary improvements, and receive and treat there, separately, cases of contagious diseases, such as diphtheria, croup, scarlet and typhoid fever. By this means serious inconveniences would be averted and the uneasiness that exists among the people would be allayed.

The city of Quebec has realized this by placing a hospital of this kind at the disposal of the public. The establishment of this hospital met the needs of the population, comparatively less numerous than here, so well that the public which, as a rule, has an instinctive horror for hospitals, soon became familiar with the thing, and its usefulness and necessity was so well understood that in a very short time, not only transient persons, the residents in hotels and boarding houses, and sick servants went there, but citizens of all classes took advantage of it for the isolation and special treatment of their sick children. It seems that what has been commenced in Quebec and what is done elsewhere with success in the public interest, Montreal, which has already so often given the example and taken the lead in matters of hygiene, might also do, for the need is still greater here than elsewhere, on account of the density of the population.

The Province of Quebec Board of Health submit these considerations to the serious attention of your Council, trusting that it will practically deal with them. Besides, judging from the excellent disposition manifested by His Worship the Mayor in his inaugural address, we have every reason to believe that Montreal will not allow this flaw in its sanitary organization to exist any longer, and that before long it will have its civic hospital for the treatment of all contagious diseases. I have the honour to be, sir, your obedient servant,

(Signed) ELZEAR PELLETIER,
Secretary, Province of Quebec Board of Health.

PUBLIC URINALS A NECESSITY.

A writer in the *Doctor's Weekly* estimates that not less than fifteen thousand dollars is spent daily in the saloons and taverns of New York by persons who, but for the privilege of using the urinals, would not enter such places. The mere fact that such an amount of money is daily thrown away, nay worse, spent upon something which is absolutely harmful, should make health boards think and temperance societies get up in arms.

What is true of New York is true of all other large cities. For instance Montreal, with a population of about one-tenth that of New York, is paying some fifteen hundred dollars daily for the privilege of relieving a full bladder. The only reasons ever given for not having public urinals are: firstly, the æsthetic one that such places do not look pretty, and secondly, the question of expense. In view of the pressing demand the first reason is not very weighty, and might be overcome by putting them in secluded places with a finger-post to direct applicants for relief. The second reason fades into nothingness before the figures given.

The *lavatory* attached to the ordinary saloon is usually in bad sanitary condition, and thus another reason why public urinals should be provided is added to the list.

In many shops we find toilet rooms for ladies, but the male population must either go into a saloon or else run the risk of arrest for committing a nuisance in a quiet corner. Again, the mere knowledge that a harbour of refuge is at hand if required would be a comfort to many a good citizen, although he may not actually require it.

The consideration of this question we commend to our Board of Health as a measure conducive to health and morals, and to our Total Abstinence Societies as a means of preventing indulgence in intoxicating liquids. We hope that too much time will not be spent in considering the question, but that some action may also be taken.

NEW BY-LAWS, PAN-AMERICAN MEDICAL CONGRESS.

LANGUAGES.

By Law IX.—Papers may be read in any language providing that authors of the same shall furnish the Secretary-General with an abstract not exceeding six hundred words in length in either of the official languages (English, Spanish, French, or Portuguese) by not later than July 10th, 1893: and providing further, that a copy of each such paper shall be furnished in either of the official languages, at or before the time of the meeting, to the Secretary of the Section before which the same shall be read. Remarks upon papers may be made in any language providing that members making such remarks shall furnish a copy of the same, in either of the official languages, before the adjournment of the session.

PUBLICATION.

By-Law X.—All papers read either in full or by title, shall be immediately submitted for publication in the Transactions (Special Regulation 3), but authors may retain copies and publish the same at their pleasure after the adjournment of the Congress.

CONSTITUENT ORGANIZATIONS.

By-Law XI.—All medical. dental, and pharmaceutical organizations, the titles of which have been transmitted with approval to the Committee on Organization, or which may hereafter be transmitted with approval to the Executive Committee by any member of the International Executive Committee, each for his own country, shall be subject to election by the Executive Committee, approved by the President, as constituent bodies of the First Pan-American Medical Congress, and each organization thus constituted shall have the right to designate as delegates all of its members attending the Congress, but no such organization shall meet at the time and place of meeting of the Congress as a distinct body; providing, that the secretary of each such constituent body shall furnish a list of officers and a statement of the number of members of his respective organization to the Secretary-General not later than sixty (60) days before the meeting of the Congress, and shall forward a list of delegates chosen, to reach the Secretary-General before the opening of the Congress.

PAN-AMERICAN CONGRESS BULLETIN.

SECTION ON MEDICAL PEDAGOGICS.

The Pedagogic Section will devote its attention especially to the History of the Development of Medical Education in America.

In the papers presented by leading teachers recent advances in methods of instruction will be considered.

The *art of teaching*, which is regarded as a study of great interest in other branches of learning, has received hitherto but little attention from the medical profession.

The Section in Medical Pedagogics will therefore be made a prominent feature of the Congress, and it is hoped that those interested in medical education will co-operate in the work of this section, by being present and by actively engaging in the discussion of subjects presented.

Any inquiries or communications may be made through the Secretaries undersigned.

J. Collins Warren, M. D.,
Executive President, Boston, Mass.
Charles L. Scudder, M. D.,
English-speaking Sec'y, Boston, Mass.
Wm. F. Hutchinson, M. D.,
Spanish-speaking Sec'y, Providence, R. I.

THE

EAL MEDICAL JOURNAL.

XI. MAY, 1893. No. 11.

Original Communications.

ON THE INTER-COMMUNICABILITY OF TUBERCULOSIS FROM ANIMALS TO MAN AND FROM MAN TO ANIMALS.[*]

D. McEachran, F.R.C.V.S., V.S. Edin., D.V.S.

Mr. Chairman and Gentlemen:

Having been asked to assist to-night in bringing this most important subject before you, I accepted the invitation with much pleasure; not only on account of the importance of the subject as a study of comparative medicine having a vast bearing on the public health, but on account of the fuller knowledge which we now possess, as compared with what was known of the causation and means of diagnosis when I first brought it before your Society in 1870, twenty-three years ago.

Section I.—Shortly after coming to Montreal I was consulted about a disease which was decimating a herd of dairy cattle in the neighbourhood of the city. This disease I found to be tuberculosis. The history of the outbreak pointed very clearly to the introduction of a cow from a herd at some distance. This cow coughed and did not thrive well and finally died of general tuberculosis. Others of the herd contracted the disease, and the herd was practically decimated.

Another farmer three miles from the city introduced the disease in the same way and from the same herd and lost his cattle.

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[*] Read before the Medico-Chirurgical Society of Montreal, March 17, 1893.

Still another case of infection of a herd from the same source came under my notice. These well evidenced cases attracted my attention to its infectious character, and I lost no opportunity of tracing each subsequent outbreak to a source of infection.

In reading up the subject I became much interested in the reports of observations similar to my own published in the veterinary journals, particularly of the experiments conducted by Prof. Villemin, of Paris, Chauveau, the able Director of the Lyons Veterinary School; Harms and Gunther, of the Hanover Veterinary School; Lessering of the Dresden Veterinary School; Gerlack, of the Berlin Veterinary School; Zurn, of the Jena Veterinary School, and Bollinger, of the Zurich Veterinary School. The former confined his researches mainly to ascertain the communicability of human consumption to animals, and of bovine tuberculosis to the guinea pig, sheep, dog and cat. His results proved that bovine phthisis is identical with that of man. Chauveau proved its communicability by injection of tubercular matter in bovines and was the first to call attention to the relation of bovine tuberculosis to public health. Chauveau concludes his valuable report with the following resumé of his experiments. (*Veterinarian*, 1875.)

"1. They prove that bovine animals contract tuberculosis by digestive ingestion. 2. They place beyond doubt the fact as to the virulence and contagious property of tuberculosis, and show that the labours of Villemin have not been recognized as they deserved. 3. That the digestive canal constitutes in the bovine species, as in man, a channel of contagion readily disposed to the propagation of tuberculosis. The experiments of the others named supported in every particular Chauveau's conclusions, and added new and important facts, showing that tuberculosis could be produced by co-habitation, both by inhalation and by digestion of the infecting principle, dried sputum, milk, flesh and other fluids being the active infecting agents."

The researches of Klebs proved conclusively that the disease was readily produced in dogs fed on milk from tuberculous cows.

Deeply interested as I became in this subject I naturally sought to awaken an interest in the matter among the members of this Association, in hope of being able through them to rouse public interest in a subject so seriously menacing public health, on account of there being no municipal or provincial regulations to prevent the sale of milk or flesh of animals affected by a disease which, if not identical with consumption, certainly was communicable and produced that disease in various forms in the human family.

For this reason I brought these facts before them in the form of a paper, with what result you can infer from the fact that to-day the same condition of things continues to exist in Montreal. No provision is made to prevent the sale of tuberculous milk, and scarcely any to prevent the sale of tuberculous meat. True, occasionally a carcass is seized at the abattoirs, when the tuberculosis is general and in an advanced stage, but I have known of instances in which the tubercles have been cut off by the inspector, (some years ago) and the carcass stamped with the corporation stamp as sound meat.

Tuberculosis in cattle to-day in this province, and the whole Dominion in fact, is more prevalent than ever before, and, if I am rightly informed, consumption in the human family is increasing in like ratio.

I wish to cast no reflections on the members of the noble profession of medical science in this relation. The facts adduced by the investigations of the above named scientists were too new and the deductions too startling for a profession, too long remarkable for conservatism, to accept without doubt such disturbing ideas as consumption being contagious, or having anything whatever to do with bovine consumption, and, as was the case with Jenner's innovation, when he proposed to prevent small-pox by substituting for it the milder cow-pox (vaccine), "A great ferment instantly arose, and the subject was hotly discussed both in professional circles and general society. Many of the sanguine and a few of the profound were at once convinced of the truth of Villemin's and Chauveau's opinions; but the cautious suspended their judgment, while the superficial and self-sufficient pronounced at once that the whole was an absurdity."

Professor Adami will bring before your notice the pathology of the disease. I must therefore confine my remarks to a few general facts on the prevalence of the disease, its peculiar features as observed in animals, and the relation of animal to human phthisis, and these remarks must necessarily be concise and confined to a statement of authentic facts gleaned from the work of others, supported by my own practical observations. Here let me remark in passing that I feel humiliated that we can offer no results of original work of our own; time and again I have urged and done all in my power to get established in or near Montreal in connection with our great seat of learning, McGill, a station for pathological investigation, wherein this and kindred subjects could be investigated from Canadian standpoints and under conditions purely Canadian, hitherto without success. Can this longer continue? Surely not. I claim that such a station is absolutely essential to put us on a right footing in relation to the prevention of disease and the eradication of disease in both men and animals, and gentlemen, members of this Society, it rests with you to demand that not only shall the city have its pathologist and pathological laboratory as part of its sanitary department, but similar provisions for investigating and preventing disease in men and animals shall form part of the Provincial Board of Health. Surely if the City Council, the Provincial Board of Health, or the Dominion Government fail in their duty in providing such laboratories, some large-hearted, science-loving and benevolent wealthy citizen will emulate Mount Stephen, Smith, McDonald or Molson, by conferring a lasting benefit on mankind, and our fellow-citizens in particular, by donating a sum sufficient to enable McGill or other university to establish such a pathological station as will enable the medical practitioner or the veterinarian to act always under the bright light of science and scientific guidance.

SEC. II.—For the reasons given above, I must ask you to accept the following statements as facts regarding this disease:

(*a*) Tuberculosis is an infectious, fatal and incurable disease.

(*b*) It is communicable from man to animals, and has been communicated by inoculation, by ingestion and by inhalation in the dried form of the sputum of consumptive persons, as well as from the tubercular matter itself, to cattle, sheep, goats, swine, dogs, cats, rabbits, guinea-pigs, rodents, poultry, pigeons and, I may add, to man himself.

An interesting series of experiments (*Veterinarian*, 1875) were being conducted over twenty years ago by Demet, Paraskeva and Zallonis, in Syra, Greece, on rabbits by inoculation with the sputum and blood of a consumptive man. The opportunity occurring they ventured on the unprecedented experiment of inoculating a human patient whose history gave no indication of tuberculous taint, and whose lungs were perfectly healthy so far as physical examination could discover, but who was suffering from gangrene of the big toe of the left foot, due to obliteration of the femoral artery. Amputation of the limb was proposed by the surgeon, but would not be submitted to, and a fatal termination was inevitable. A quantity of sputum from a man who had abscesses on his lungs was inoculated in the upper part of the left thigh. About three weeks afterward ausculation revealed very slightly increased respiratory murmur at the summit of the right lung and somewhat prolonged respiration in the subclavicular region. In thirty-eight days after inoculation the man died from gangrene, and on examination of the body it was found that the upper lobe of the right lung had seventeen tubercles in the first stage of development; two similar tubercles existed at the apex of the left lung. At the centre of the convex surface of the liver were two tubercles, one as large as a shelled pea, the other smaller, both being very hard and of a yellow colour. From this unusual experiment it is evident that tubercle is inoculable in man himself.

(*c*) Tuberculosis in man is identical with tuberculosis in the bovine and other domestic animals, is due to a slender rod-shaped bacillus, which gaining entrance to the circulation by means of milk, flesh, sputum moist or dry, work their destructive operations in various tissues of the body, not in the lungs only, as is often supposed, but in the serous membranes, pleura, peritoneum, thoracic and abdominal glands, or superficial glands of the body, especially the udder, testicles, thyroid, parotid and other glands, to act as new foci of infection. Later reports show exactly the same condition of affairs.

In Canada no statistics are obtained on the subject, yet while the disease is much less prevalent than in older and more populous countries, there is no denying that bovine tuberculosis is alarmingly prevalent. I say alarmingly, because considering the fact of our absolute immunity from such cattle plagues as pleuro-pneumonia, foot and mouth disease and Rinderpest, and knowing that we have the healthiest cattle in the world, the existence of any contagious disease is subject for alarm. I have known of herds being decimated from Cape Breton to the Peace River by the introduction of a single diseased animal.

How It Spreads Among Cattle—A tuberculous animal, bull or cow, is introduced to the herd, the bacillæ are coughed up, provided the lungs be the seat of the tubercular formations. The sputum may mix with the food in the trough in front of the adjoining animal and thus be swallowed; it may dry on the hay, feed-box or boards to be inhaled; in the former case it may develop messenteric tuberculosis, in the latter pneumonic or thoracic. It may be, if a cow, that other calves besides her own are fed on her milk, which containing the tubercular bacillæ, they become infected. If a bull, he may in the act of coition transfer the bacilli to the cow. No more frequent source of extensive spreading of the disease exists than tuberculous bulls. The calf is sometimes born tuberculous. I have seen cases where the placental membranes were studded by grape-like tubercles.

It is generally said to be hereditary—it is, but more frequently the calf contracts the disease from its tuberculous mother's milk or coughed up bacillæ. It is generally supposed that the milk will not communicate the disease to the calf if the udder is not tuberculous. This is an erroneous and a dangerous doctrine, and in connection with the communication of the disease by means of milk to mankind should be strongly rejected.

We have seen that it has been proved by experiment that this disease is readily communicated from consumptives to other animals, why not to cattle?

Symptoms—The insidious character of the disease, the absence of any definite symptoms in the early stages, the variability of the symptoms owing to the variability of its localization, render it often difficult of detection, till its invasion of the respiratory or other system of essential organs produces symptoms of structural or functional alterations in these organs. The breathing will be impared much or little according to the extent of tuberculization. Cough of a chronic character will be observed when the bronchi and bronchial glands are invaded.

There is usually an offensive odour from the respired air in advanced lung tubercle. There is usually no fever. Percussion will give dull sounds in spots if large tubercular masses press against the ribs, with increased resonance surrounding.

Auscultation illicits dull respiratory sounds over the large tubercular masses, increased in uninvaded portions of lung. The milk secretion is gradually diminished. In advanced stages emaciation is pronounced, particularly in dairy cattle, although I have seen animals die from tuberculosis compartively fat, particularly short-horn cattle.

Often no symptoms exist by which the positive existence or non-existence of the disease by clinical examination could be determined. It is this fact that has caused governments to hesitate and professional men advise caution in attempting to deal with tuberculosis as a contagious disease.

In this respect I may nay that while Britain and France did not officially include tuberculosis in the list of contagious diseases till 1888, you will find that it is so included in the Canadian "Act respecting infectious or contagious diseases affecting animals," July, 1885.

The use of tuberculine as an aid to diagnosis promises to be of great value. Should it prove to be reliable its value cannot be over-estimated, for if correct direct diagnosis can be assured by the increased temperature following injections of tuberculine when the disease is present in the masked form, with our knowledge of its causation, we are now in the satisfactory position of knowing that we can by proper measures get rid of it entirely, in this country at least, where the disease exists to a limited extent only. Even without such aid or knowledge of the disease such as we now possess I have in several instances eradicated it from herds in this country and in the United States.

In one instance where short-horn cattle were sold for fortunes I was present and heard offered $5,000 for a young bull in an advanced stage of tuberculosis, which offer on my advice was refused, and I had him killed and made a post-mortem examination the following morning. In another instance I was sent for to a neighbouring State to give my opinion on a bull calf. I found him tuberculous and recommended slaughter, which was carried out then, the diagnosis confirmed, and before leaving the gentleman owner showed me an offer by telegraph of $11,000 for him. I mention these cases just to show how convinced these men were of its contagiousness and the danger to their herds if kept and the ruin to their reputations if sold.

How Tuberculosis is Communicated from Animals to Man—The contagious character of consumption is not now a debateable question. It is beyond doubt that it was considered communicable even in the days of Hippocrates, and if his own writings do not say so those of his contemporary, Isocrates, certainly do. Medical writers in all ages warned their readers of the danger of women contracting it from their husbands and men from their wives.

It is a well known fact that phthisis is often seen to affect people known to be free from any family history of tuberculosis. It is also well known that among savage tribes who are not milk consumers this disease is unknown, except by infection by other strange people, whereas wherever cows' milk is in free use as an article of diet tuberculosis prevails. Dr. Edward Playter, M.D., Ottawa, in an excellent pamphlet on tuberculosis recently published, quotes from Dr. Brush, of Washington, the following pithy sentence as to the close association of the human race with the cow:

"We are veritable parasites on this animal. We milk her as long as she will give milk, and we drink it, then we kill her and eat her flesh, blood and most of her viscera. We skin her and clothe ourselves with her skin, we comb our hair with her horns, we fertilize our fields with her dung, while her calf furnishes us with vaccine virus for the prevention of smallpox. The cow has tuberculosis and we have tuberculosis. If we regard her as a possible common centre of the affection we have a reasonable and full explanation of the commonness of consumption."

Time does not permit me to relate the numerous evidences of tuberculosis in children produced by milk from tuberculous cows. At one time it was supposed that the milk was harmless if the udder was free from tubercle. This is now known to be erroneous, and milk from a tuberculous cow, whether thoracic, abdominal or external, is capable of producing the disease if swallowed.

Curiously enough, long after the infectious qualities of tuberculous milk were known, few believed that the flesh was dangerous, yet it is now known that the bacillæ are found in the flesh, and that they have been found alive even after ordinary cooking. Fortunately the vitality of the bodies is usually destroyed in cooking ; were it not so the disease would be more common than it is, for let me assure you that such is the imperfection of the system of inspection, where even a show of inspection was made, that tuberculous meat is frequently sold in the markets to the poorer portions of the communities in nearly every city in Canada.

Until a proper system of inspection of animals before being killed and when killed, so that the whole of the viscera may be examined, on a simple subsequent inspection of the carcass without microscopic examination by a bacteriologist no inspector could, after the tubercles have been removed, detect the disease in the flesh.

Bollinger considered that the mixing of milk in dairies lessened the danger of infection by diluting the virus.

The danger is not confined to cattle, since it has been determined by experiment that ingestion of the sputum by sheep, goats and poultry, from the lungs of a consumptive person, does produce tuberculosis in them, and they in turn may reproduce it in persons who consume their flesh. Reported instances of this disease having been carried to healthy families by poultry, infected by swallowing the sputum from consumptive persons who had charge of them, are numerous.

Much remains to be said on this important subject, and as two more speakers have to follow me I must conclude by expressing a hope that in a matter of such immense public importance full publicity will be given to the views of this Society. Desperate cases require desperate remedies, and I feel that we will but be doing our duty in giving the public our views in the hope that our civic and provincial sanitarians will be induced to follow the example of New York, where a bill was recently passed for the suppression of tuberculosis in milch cows, and Philadelphia, where a Society for the Prevention of Tuberculosis has been formed.

" There has been organized in Philadelphia a Society for the Prevention of Tuberculosis. Investigation showed that families moving into tenements where the former occupants had been the victims of this disease exhibited symptoms within a short period, and unless removed succumbed. Dr. Flick in his report says:

'Fully one-half of the cases of consumption in the Fifth Ward are believed to be due to living in infected houses. A family unsuspectingly moves into one of the houses which, on the map, are marked with black dots. This house has just been vacated by a family in which death from consumption has occurred. The weakest member of the incoming family succumbs to the disease, the infection spreads to new victims, and death reaps a greater harvest.'

The new Society will do most of its work among the poor, teaching how infection can be avoided. All cases of consumption will be reported to the health board and registered. Consumption is a most fatal disease among the poor, and much can be done by education and by law, if it is enforced, to prevent it."

How many sad bereavments have visited our most happy families through this preventable disease, communicated through milk or flesh? It may be the father, the tender, loving mother; but more frequently the victim is the darling little one who, fed under medical direction, it may be, by the affectionate mother on milk—milk containing the deadly bacillus of tubercle—dies a lingering death, and the burial certificate read Cholera Infantum, or Cerebral Meningitis, whereas, if the truth were known, it should read Intestinal Tuberculosis, or Tubercular Meningitis. This is the history of many a case of tuberculosis in young men and women, cut down in the flower of their youth by disease contracted by consuming as food the milk of tuberculous cows.

Time and again this subject has been urged on the attention of the governments and public action has been delayed, first on account of the expense which would necessarily be incurred in stamping the bovine disease out, and also from the difficulty of diagnosis in cases in the initial stages.

Happily advancing science has given us a method by which it can be discovered in the earliest stages. It is verily believed that the injections of tuberculine, causing in affected animals a rapid rise in temperature, and no effects in non-infected animals, can be relied upon. If it proves to be so, then there is no excuse for longer tolerating the existence of this preventable disease, which must be credited with a large percentage of the infection of human beings by consumption.

ON THE COMMUNICABILITY OF TUBERCULOSIS FROM MAN TO MAN.

By J. G. Adami, M. A., M. D.
Professor of Pathology, McGill University.

I had this evening intended to take up especially the relationship of tuberculosis in the domestic animals to tuberculosis in man, but after Dr. McEachran's masterly paper I think that you, Mr. President, and all here present, will agree that such would be a work of supererogation, for in so doing I could but follow along similar lines, employ similar illustrations, and arrive at like conclusions to his. And when it is remembered that Dr. McEachran has made this subject particularly his own, that he was one of the pioneers in calling attention to the infectious nature of bovine tuberculosis, having published very conclusive evidence to this end so long ago as 1870, and that through his representations the Dominion led the civilized world by two years in scheduling tubercular cattle, I think that after his paper any disquisition from me upon this aspect of tuberculosis is unnecessary, although there are one or two details upon which later I should like to dwell for a moment.

I will therefore take up another and important aspect, namely, the infectiousness of tuberculosis as between man and man. Of this, after long years of discussion, there can now be no discussion; but it is well worth our while to call to mind the main researches upon which our knowledge of this infectiousness is based. From the fact that in the adult the most common seat of the tubercular infection is the lung tissue (indeed, as Dr. Harris, of Manchester, and others have pointed out, careful examination shows the presence of active or obsolescent tuberculosis in the lungs of from 30 to over 50 per cent. of all bodies examined in the post-mortem room of the hospitals of large cities), it is evident that the disease in the adult is most easily acquired through the respiratory tract. How, then, do the bacilli come into the inhaled air? Are they ubiquitous, do they multiply outside the body, or are they always acquired from animals or human beings suffering from the disease? Certainly they are not ubiquitous; the experiments of Cornet, to which I shall refer more fully in a few minutes, prove conclusively that from the dust of rooms that have not been inhabited by phthisical patients no bacilli can be obtained—that is to say, guinea-pigs inoculated with this dust never succumbed to tuberculosis. Again, the bacilli can only grow at the blood temperature ; evidently, therefore, they cannot multiply under ordinary conditions outside the body. But on the other hand they are endowed with great vitality. They withstand maceration and putrefaction for several days, as demonstrated by Galtier, and, as shown by Baumgarten, Ransome and others, dried phthisical sputum can be kept for half a year or more without the contained bacilli losing their virulence. The presence of the bacilli in the dust deposited from the air in rooms occupied by phthisical patients was determined so long ago as 1883 by Dr. Theodore Williams at the Brompton Hospital. Dr. Cornet, while confirming these last results throws doubt upon them. However, Cornet's own observations were so admirable and so extensive that even if forestalled by Dr. Williams he is worthy of all credit as having established most fully the point in question. In place of filtration or collection directly from the air, he removed the dust that had deposited upon the wall immediately above the head of the phthisical patient's bed, and inoculating this dust, suspended in broth into the abdominal cavities of three guinea-pigs, in each case he obtained very remarkable results. Many of the animals died rapidly, as might be expected, of septic peritonitis, but he obtained a large number of cases in which one or more of the guinea-pigs succumbed to tuberculosis. Thus 38 separate examinations in 7 different hospitals led in 15 cases to positive results, while the dust collected from the neighbourhood of 62 private tubercular patients induced tuberculosis 21 times in one or more of the inoculated animals. When it is taken in into account that everything points to the fact that several bacilli must be inoculated in order to induce the disease, solitary bacilli being destroyed by the organism, then these results become most significant.

But Cornet did more than this. If, as these results demonstrate, the immediate neighbourhood of phthisical patients is rich in tubercle bacilli, then that neighbourhood must be especially infectious. Can this be proved to be the case ? Very many individual cases have been adduced in which the husband of the tubercular wife has become tubercular, and *vice versa*; but statistics are still wanting of the extent to which this obtains, and those statistics are difficult to obtain. There is another class that can be held peculiarly liable, namely, sick nurses—not so much those attending individual cases as those attending upon the sick in hospital wards, where necessarily, owing to the large proportion that phthisical cases bear to all other cases, each nurse must be brought into intimate contact with a series of tubercular patients. The vital statistics of this class of the community can be more easily collected and studied. It was to this study that Cornet applied himself and this is what he found:—

In Germany the sick in hospital are largely attended by religious sisterhoods and confraternities. Taking thirty-eight of these nursing corporations he found that, during the last 25 years, of their total mortality 62.8 per cent., or almost two-thirds, was recorded as being from tuberculosis, while of those members of the corporations dying between the ages of twenty-five and thirty-five no less than 73 per cent. had succumbed to this disease, in place of a little over 40 per cent. in the general population. Or, to put the matter in another light, a German nurse, member of one of these sisterhoods, *has at twenty-five the same expectation of life as a woman at fifty-eight in the general population.* This is a terrible revelation. Little wonder that now-a days in Germany the lesson thus given as to the infectious nature of tuberculosis has been taken well to heart and that every precaution, even down to the disinfection of railway carriages, is being carried out by the government and by civic bodies.

If, as Ransome has proved, the breath of a phthisical patient contains the bacilli, *a fortiori* are the bacilli present in large quantities in the sputum, and it is this sputum that must be rigorously disinfected. Not only must this be collected in special utensils and then disinfected and the utensils rendered sterile by boiling daily (or, as some advise, be made of such materials that they can only be employed one day and then be cast into the fire), but the handkerchiefs and bed linen must be washed apart and well disinfected, the habit of promiscuous expectoration must be stopped sternly, and when a patient has died or has left a room then the walls and floor of that room must undergo thorough disinfection.

All these precautions are absolutely necessary, and it is our duty to publish them widely abroad, if the spread of tuberculosis is to be averted. This, of course, is but one side of the question; there is still the undoubted spread of the disease through the intermediation of animals that Dr. McEachran has so well placed before us, through food, that is, where the bacilli gain their entry through the alimentary tract.

Intestinal and abdominal tuberculosis is most common, as we all know, in the young, and the prevalence of milk diet indicates what Bang in Denmark, Bollinger in Germany, Nocard in France, and Woodhead and MacFadyean in England have conclusively proved to be the case, that this intestinal tuberculosis is very largely brought about by the milk of tubercular cows. The milk, in fact, is far more infectious than the flesh of these animals. It is only in advanced tubercular disease that the bacilli are to be found in the musculature, the flesh of animals. On this account one might be inclined to say that in this country, where the habit of eating raw flesh is scarce, if at all practised, the flesh of animals exhibiting the lesser degrees of tuberculosis might safely be permitted to be sold in public market. Nevertheless, half measures are here no measures—if the disease is to be stamped out we must be drastic, and for this reason I would urge that all animals discovered to be tubercular be condemned *in toto.* We are here dealing with humanity's most terrible scourge, with the disease to which is ascribable nearly a quarter of all the deaths from all causes at all periods of life, far more deaths than from any other single cause. It is our duty, gentlemen, to use our every endeavour in spreading abroad a knowledge of the danger of tubercular infection and in inculcating sound means of prevention. It is our duty to give our individual and united support to every measure which tends to lessen its spread, whether in man or in the domestic animals.

MASKED TUBERCULOSIS.*

BY WILLIAM S. MORROW, M. D.

You have heard of the old man Proteus, of Grecian fable, whose sport it was to assume a multitude of strange disguises in order to elude the search of those who would fain question him about the future. You have smiled as you have thought of the credulity of the ancients who could believe in such a thing; and yet to-night I wish to discuss with you an entity—if I may call it such—a morbid process, if you prefer the term, which, for endless variety of disguises, puts the old man to shame, and in some of its less customary garbs deceives, not superstitious Greeks, but members of our own learned profession.

I refer to tuberculosis and invite your attention while I try to set before you a few cases, which seemed to me from one cause or another to present special difficulties of diagnosis.

From the fact, however, that certain general laws apply more or less to all diseases, and that while we are making our diagnosis we are necessarily in doubt as to the nature of the case, it follows that the propositions I try to illustrate regarding the diagnosis of tuberculosis may be extended to apply to many other morbid processes, and you will no doubt recall cases of other diseases which have presented to you the same difficulties of diagnosis as I have met with in tuberculosis.

The first point I would like to make is: that we sometimes find certain symptoms, not closely connected with tubercle and to us not characteristic of it, so prominent as to draw us away on a wrong scent and lead us to seek the cause in a wrong direction.

Thus in February, 1892, D. R. was admitted into the general hospital. He complained of frequent emissions sometimes occurring more than once a night, of pain over the sacrum, of weakness, of sweating at night, of slight cough, and scanty thick expectoration. Family history, tainted with tuberculosis; personal history of dissipation.

On examination of his lungs no physical signs of disease were observed. The cough of which he complained was only a slight hawking, such as is characteristic of pharangeal catarrh. The sweating was never found to amount to much by the nurse. His temperature was normal; disposition nervous and cranky. A diagnosis was made of neurasthenia and functional spermatorrhœa, and yet I believe the man was already suffering from tubercular orchitis as the sequel proved.

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* Read before the Montreal Medico-Chirurgical Society.

After he had been in hospital a little while, I noticed his left testicle slightly larger than his right, but, as there was no tenderness and both were small, I supposed the right was atrophied. His temperature soon after became irregular and he developed signs of phthisis. My term being up I left the hospital but heard afterwards that he died of miliary tuberculosis. At the post mortem the apparent origin of the tuberculosis was found in the left epididymus, which was caseous and apparently showed the changes of longest standing.

This case shows how insidious tubercle may be in the testicle, causing in this case very little enlargement at first, no pain or tenderness, in fact scarcely any sign of localising value except the spermatorrhœa, which is itself often, if not most often, a symptom of psychic disturbance.

However, this man's history is a warning to us to examine carefully the genital organs of patients with persistent spermatorrhœa.

There was a another case admitted about the same time which likewise shows how one may be misled by the prominence of symptoms not usually connected with tubercle.

P. M. was admitted into the hospital February 3rd, 1892, complaining of pain about the right shoulder and loss of power in the muscles moving that joint. A fortnight before admission he was suddenly seized with pain and weakness in the right arm and shoulder while cutting wood. This got steadily worse.

When seen he was unable to [illegible] his right [illegible] to the shoulder without help from the other hand, and then with great pain. All the muscles acting on the shoulder joint were much wasted. Their reaction to Faradism was diminished.

A diagnosis was made of neuritis [illegible] associated with a polio-myelitis. When the man had been under observation for about a month an abscess formed on the outer side of the arm at the junction of the upper and middle thirds. It was opened and after this some increase in power was observed, and he went home ten days later with the abscess apparently nearly closed and the condition of the muscles improving.

Five months afterwards he came back. That abscess had never closed. The patient was dying of phthisis and succumbed three days after admission. At the post mortem, besides the tuberculosis in the lungs, the right shoulder joint was found to be the seat of caries, which was doubtless tubercular. The sinus at the seat of the old abscess cavity connected with the joint.

In this case the excessive wasting of the shoulder muscles, the change in Faradic irritability, the pain, and the history of sudden onset directed attention to the nerves.

When the abscess appeared, the evidence of neuritis seemed so strong, and the abscess pointed so far from the joint, that I was led to explain it by trophic changes acting along with a poor state of general health and a possible slight injury , whereas there is little doubt but that the disease started as a tubercular arthritis of the shoulder, and if there were changes in the nerves they were secondary.

We may very easily be misled by the history of a case into ascribing to traumatic or other causes symptoms really due to tubercle.

Thus Fagge relates the case of a man who received a severe crushing injury to his chest, after which he spat up a little blood. A few days later he had a considerable hæmoptysis. Although physical signs were soon after found suggesting a tuberculosis, they seemed explainable by traumatism, and thus the diagnosis was delayed. A few months later the man died of tubercular phthisis.

Sometimes, again, although the appearance of the patient and the history of the case suggest tuberculosis, we are unable to satisfy ourselves of the nature of the case from lack of physical signs. The following is a remarkable case of advanced tubercular disease without any physical signs which I could discover.

D. McD. came to the general hospital on November 18th, 1891, complaining of weakness, loss of flesh, and most obstinate constipation. His family history was both neurotic and tubercular. His back was injured six years before admission, and had never been strong since. For a year he had been losing strength and flesh rapidly. There was no history of cough or night sweats. He was tall and gaunt; greatly emaciated; muscles limp and weak; deep reflexes absent; bowels never moved without assistance; temperature sub-normal, pulse 52; no physical signs of disease found in thoracic or abdominal viscera. A week after admission he developed a moderate cough, but still no physical signs of disease could be found in his lungs. Four days later the sputum looked so purulent that it was examined and found teeming with bacilli. This was a week from the onset of cough. The only physical sign which could be found even then was a slight lack of resonance in the left interscapular region. No change in the character of the breathing could be made out, and no rales were heard. Five days later the patient died quietly at night without anything unusual being noticed about him except increased weakness.

Unfortunately the friends objected to a post mortem, so that it is not possible to unravel the mystery surrounding this case. The only explanation I can suggest of the sudden onset of cough accompanied by tuberculous sputum is the rupture of some tuberculous focus, such as a caseous gland, into one of his bronchial tubes; and I think the character of the sputum, so creamy in appearance, and the position of what physical signs there were in the interscapular region, went to support this view. Besides, this course of events is, I believe, not without precedent, especially in children, who have been known to cough up not only caseous products of broken down glands, but the glands themselves.

What caused the emaciation? What caused the obstinate constipation? I have never been able to answer either of these questions to my own satisfaction.

But passing on:—We may be deceived by the presence of other diseases along with the tuberculosis.

In November, 1891, a young woman named Annie L—— was brought to the hospital in an early stage of miliary tuberculosis, but at the time she was also suffering from tonsillitis, which seemed to be sufficient explanation for most of her symptoms and, I think, delayed the diagnosis of the tuberculosis.

We are doubtless all agreed that some cases of tuberculosis are difficult to recognise. The question now presents itself: What steps are we to take if we are to unmask and diagnose the greatest possible proportion of obscure tubercular cases? By observation, thought, and especially by attention to details, we may do much.

We may learn to recognise more quickly and surely the two great types of tuberculosis and scrofula, as laid down by Jenner in his classical description. On the one hand, the precocious development, slim figure, delicate skin, clear complexion, bright eyes and silky hair. On the other hand, the phlegmatic disposition, dull pasty complexion, thick lips and enlarged glands. We must not, however, expect all our tubercular cases to bear their constitution written on their faces thus clearly.

Fagge attaches importance to straight, lanky whiskers and beard. He says: "A bright eye, and a flushed cheek, associated with a wasted frame and lanky hair, at once suggest tubercular mischief."

In his chapter on constitutional diseases, Paget mentions among other signs of scrofula which sometimes assist us: "Granular pharynx, soft enlarged tonsils, swollen catarrhal nasal passages, chronic periosteal swellings, slowness of healing, capricious appetite, and excessive growth of dark hair on trunk and limbs."

He makes the remark: "Many small facts may be as significant as a few large ones; the accumulative evidence of probabilities of low degree may amount to proof."

The important diagnostic value of physical signs, and family and personal history, I can only mention.

Koch's lymph has come, and has it gone? It seems to me, from indications I occasionally see in the journals, that it may yet have a recognised place in diagnosis if not in treatment.

There is one more aid to diagnosis I should like to mention, and that is the cherry red colour given by Ehrlich's diazzo solution with certain specimens of urine. I have found this reaction in the urine of miliary tuberculosis, pulmonary phthisis, tubercular cystitis, and tubercular peritonitis. I believe it is usually present where absorption of tuberculous products is going on to any extent; and although the diseases in which it may be found are not yet completely worked out, there are certainly not many in which it is so typical as in tuberculosis and typhoid; and I believe we may often get valuable information by the employment of the test in these diseases.

I should like to bring to your notice, in closing, a few points mentioned by Sir William Savory at a recent meeting of the North London Medical and Chirurgical Society. He observed: "That each of the symptoms which presented themselves in any given case, was to be observed not so much in its absolute value as in its relative significance. The true meaning of any physical sign was to be reached, not by considering it alone, but by viewing it in relation to the rest; and by thus placing each in its proper relative proportion, and by taking measure of the proportion of each, to form a mental picture of the actual state of things."

He also insisted on the importance of observing all symptoms: "Signs neither usual nor prominent might materially modify, or altogether change the view taken." Again, "an enquiry might be full and complete, and yet the result confused or obscure from an absence of all proportion."

He mentioned the dangers of "a too exclusive devotion of attention to a particular part or subject."

What the rules of perspective are to the artist, this sound judgment of the relative proportion of symptoms is in diagnosis.

A CASE OF ACUTE CIRCUMSCRIBED HEMIGLOSSITIS, WITH SUPPURATION.

BY F. H. WETMORE, M. D., HAMPTON, N. B.

Cases of acute inflammation involving the parenchyma of the tongue are, I think, sufficiently rare at the present day to justify one's placing on record any observation of this nature.

Besides those cases owning a traumatic or toxæmic cause, there is a class of cases which arise spontaneously, or in which exposure to cold and moisture precedes the onset of symptoms. The case reported below belongs to this class.

Ziemssen's description of partial glossitis (vol. vi, pp. 749-750) does not apply to my case; nor can it be classed as an abscess of the tongue as usually described, for these are of slow growth (see Erichsen's case in Holmes' Sys. of Surgery, 1870, vol. iv, p. 220) and in danger of being mistaken for malignant tumours of the tongue, whereas the evident acuteness of the affection in the following case pointed pretty conclusively to its nature. The case, then, appears to present some unusual features.

On October 15th last, I was asked to see a youth of 18 years, who complained of a sore throat and difficulty in swallowing. He talked like one with the quinsy. His mother said she could not see much the matter with his throat, but that he winced when she attempted to depress the tongue. He felt a sharp pain in the back of his throat, like a needle sticking in, at times shooting up towards the left ear. The tonsils were normal, and the fauces but slightly congested. The experienced eye could detect a slight elevation or fulness of the posterior left half of the tongue, but nothing else could be seen. The finger readily outlined a well defined, rounded tumour or induration, rather larger than a robin's egg, situated deeply at the back part of the organ. The whole anterior portion of the tongue, for over an inch from its tip, and the entire right half, were not involved in the induration, but were normal in character. The swelling extended well down to the root of the tongue and into the left sub-maxillary region. It was very tender to the touch. The tongue was covered with a thick white fur. Pulse 96; temperature 99° under the tongue. He said the symptoms commenced the morning after a hard day's work in the cold at a threshing machine. They had subsided at first, but on his continuing to go out of doors they had returned, and had steadily increased till the time of my visit two or three days subsequently. Besides internal remedies, medicated steam inhalations were ordered. When I saw him two days later (Oct. 17th), all the local symptoms were greatly intensified, and there was considerable general reaction. By the pain, and the want of rest and nourishment, he had been much reduced. The tumour was somewhat larger, and could be readily grasped by placing one finger on the dorsum of the tongue, and the other outside, just below the external angle of the jaw (left side), where pressure was very painful. The tongue was held well forward and two deep incisions made over the tumour, to the left of the median raphé, downwards and backwards to the depth of one or two inches. There was little or no bleeding, and no pus to be seen at the time, but the patient tasted and smelled fetid matter at once, and in a few hours the discharge was quite free, giving marked relief to the patient. A couple of days later offensive pus was still oozing from one of the incisions, the other having closed. The thick coating of the tongue had commenced to peel off. By October 25th there was very little induration to be felt, and the incision had nearly healed.

ADDRESS

DELIVERED TO THE GRADUATES IN MEDICINE AT THE SIXTIETH ANNUAL CONVOCATION OF THE MEDICAL FACULTY OF McGILL UNIVERSITY, APRIL 4TH, 1893.

BY A. D. BLACKADER, B.A., M.D.
Professor of Materia Medica, McGill University.

GRADUATES IN MEDICINE —The Faculty has delegated to me the honourable duty of bidding you all godspeed as you now leave the portals of your Alma Mater and enter the ranks of the noblest of professions. The goal which four years ago you set before yourselves your college declares you to have honourably reached. Long, heavily-burdened years must they have appeared to you as you looked forward through them to the consummation of to-day. For the training involved in a medical degree is no light matter to be entered upon without due consideration. The curriculum is long. The work required of you stretches far into the hours of night, and makes heavy demands upon both mental and physical powers. More, I think, than is demanded in a degree from many of our sister faculties. And no man seriously handicapped either with poor health, want of energy, or defective previous mental training, should enter the lists as a student in medicine.

However genial and pleasant your professors may desire to be in the laboratory or lecture room, or at the bed-side in the hospital, at the examination board they must be inexorable. This College demands the attainment of a high standard at its examinations, after regular attendance at all its lectures. Small wonder, therefore, that some fall by the way, that some find the ordeal too severe, and that a few seek easier portals elsewhere, through which they may be allowed to enter the ranks of our profession. To such we extend our pity. Let those who bear the name of McGill ever rank among the highest.

On your behalf, gentlemen, we desire to say to-day to the world that you have fulfilled all our requirements, that you have honourably obtained your full complement of marks, and that as a Faculty we consider you well instructed in all that constitutes the art and science of healing. As graduates in medicine, gentlemen, accept your professors' congratulations.

Custom, however, with hand unyielding as our winter frost, compels me to detain you while I say a few words before parting.

You are entering upon a career which demands all your activities, and which, if it is to be successful, must be laborious. Just in so far as you permit slovenliness either in your habits of thinking or acting, in that measure will you fall short of true success.

That your spirits may be sustained in your work in spite of difficulties and temptations, see to it that you take your pleasure in your work, and in all its details. As Ruskin says: "Let your amusement grow out of your work, as the colour petals out of the fruitful flower." "Strive to do the duty that lies nearest you," and do it thoroughly. Then shall you surely "find pleasure by the way."

Of especial value to you as a means of attaining professional success, I would emphasize to-day the diligent use of your faculties of observation. A few years ago Dr. Bland Sutton gave a lecture on "Intellectual Blindness," which I remember reading at the time with a great deal of pleasure. In it he gave many interesting illustrations of the fact that all of us perceive, as a rule, only the things of which we have previous cognizance, and that very often the best of us fail to see things under our very eyes, or fail to discriminate accurately between what we observe and what we infer from our observations.

One of the reasons, he thinks, for this lack in the faculty of observing correctly, is the habit of placing too much reliance on book knowledge. While it is true that the more accurate and extensive our knowledge is, the less liability there will be to error, yet I trust you will ever labour to cultivate the habit of patient, thoughtful, correct observation for yourself.

Such a habit early acquired will be of immense value to you, inspiring you with the truest form of self confidence. It will be of great value to your patients, as ensuring a careful, judicious treatment of their case, and the daily record of such cases, carefully kept and afterwards collated, will be of value to the profession at large.

Beware of being *an automatic doctor*. Shall I read you an advertisement of a possibility ?

A Dutch apothecary has just taken out a patent for a novel automatic machine in the shape of a wooden figure formed like a man. The figure is to be covered with compartments labelled with the names of various ailments. The sufferer has only to place a piece of money in the compartment upon which the name of his illness is inscribed, and forthwith will appear a sugar-coated pill or a confection suited to his case. The machine is constructed upon the same principle as the ordinary chocolate and bon-bon penny-in-the-slot machine. You slip in the money and you get the medicine. A Dutch paper predicts a brilliant future for this machine.

The true physician knows that the diseases of our poor humanity in their ever varying aspects are not thus to be formulated. He knows that what he has got to treat, and to cure if he can, is not the disease as labelled by the Royal College of Physicians, but the patient afflicted by the disease—the whole man and not a part of him, all his disordered functions. and not only the particular part where he feels, or thinks he feels, the fault.

The automatic method is easy to learn and easy to apply. It may bring in for a time a certain amount of money and a certain amount of success with the public, but it will blast your growth in all that is true and noble in your career as a physician. If you adopt it, you cease to be true to yourself and to your profession. Such a system ignores all that the carefully disciplined physician thinks important, such as the enquiry into the deeper causes, a knowledge of the pathology of the processes involved, the regulation of the hygiene, and a treatment founded and dependent upon these.

In this connection I have another word to say to you. One of the slovenly methods of doing work, which is unfortunately widely prevalent at present, is the habit of prescribing ready-made prescriptions. On every hand medical literature teems with the advertisements of compounds for one ailment, and elixirs for another, pills of one doctor's formula, or of this or that recipe, and wonderful stories are told of the miraculous success attending their use, so that the very elect are deceived and fall into the snare.

Gentlemen of the graduating class, prescribe your own formulæ to suit the individual case, after you have thoroughly studied it out. Don't lay hold of one or two leading symptoms, label it a disease, and then make a shot at this with the first recipe you can find in a book of formulæ, or with some famous compound, of which you know naught but the name, even although it be prepared by a reputable manufacturing chemist and come to us "highly recommended."

Be careful, gentlemen, of the beginnings of slovenly thought and slovenly observation. From the very start go in for thorough, conscientious work. There is no room for drones among us. Such are ever liable to drift into disgrace and accept practices alike dishonouring to the profession and to themselves.

Strive—endeavour! it profits more
To fight and fail, than on Time's dull shore
    To remain an idler ever.
For to him who bares his arm to the strife,
Firm at his post in the battle of life,
    The victory faileth never.

While success in our profession is in great measure dependent upon industry, it is also more or less dependent, at least at its commencement, upon *tact.*

While you thoughtfully interpret the many physical symptoms which you may meet with, it is very necessary that you duly recognize the many peculiarities and idiosyncrasies which go to make up the individual you are dealing with. We are all creatures of fads and fancies, and when we get sick these fads and fancies take a very prominent place. They are not part of the disease, they are part of the individual, and you will show your good judgment and discrimination by treating them very gently.

Another habit of mind which I would urge you as physicians to strive to cultivate is imperturbability. Its value was emphasized in a brilliant address given a few years ago by Dr. Osler, formerly of this University. "Of all qualities," he says, "in the physician or surgeon, no one takes rank with imperturbability. It means coolness and presence of mind under all circumstances, calmness amid the storm, clearness of judgment in moments of grave peril, immobility, impassiveness or, to use an old English and most expressive word, *phlegm.* It is the quality of all others appreciated by the laity, though often misunderstood by them. The physician who betrays indecision, who shows that he is flustered and flurried in emergencies will most surely lose the confidence of his patients. Educate, therefore, your nerve centres that not the slightest dilator or contractor influence shall pass to the vessels of your face under any professional trial." But more than this, imperturbability in its perfect and true form is indissolubly associated with knowledge and experience. Of the latter, if you have used your hospital facilities well, you have already a fair share, and as your practice increases, with diligent observation experience will grow rapidly.

But exact knowledge is sometimes elusive. Our memories require frequent re-furbishing. It is well, therefore, in your leisure moments to think over and question, each one himself, what ought I to do in such and such an emergency ? Only by so doing can you have the calm confidence which comes from knowledge and which in more ways than one will contribute to your success.

While speaking of this let me emphasize to you the importance of occasionally reviewing your old work. As time passes you will find your knowledge in certain of the branches vanishing, or at least becoming very defective. Notably may this be the case in physiology and anatomy. Even during the earlier years of your practice I would strongly urge you to spend your leisure moments in reviewing your studies in all the more important departments. It is only by a well laid out and steadily persevered in plan of regular reading that you will be able to keep yourselves in touch with the advancing lines of medical science. In any plan of reading which you may form it will be necessary in this age of rapid thought to include journals and magazines as well as books. We hope you will all subscribe to our own MONTREAL MEDICAL JOURNAL, which, especially under its present management, is a good representation of Canadian thought in medicine. As shortly as possible a good American weekly, and afterwards one of the London journals should be added. Provided that you read them regularly, money spent in this way is one of the best investments you can make.

As years roll on allow nothing to interfere with your taking prolonged intervals of relaxation from the monotony of daily practice. You will become conscious of renewed youth and thought stimulated afresh when once more you enrol yourself as a student, even if it be only for a few weeks or months, at one of the large centres of medical thought.

During your professional career you will find that much of your happiness depends upon your cordial relations with your *confrères*. Therefore in all your dealings with them be more than just—be generous. Avoid the very appearance of dealing unfairly with them. Be very slow to impute too grasping actions, or even unkind statements, to a neighbour. As you grow older you will find that many explanations may be made of actions which at the first sight might seem to be unkind or unprofessional. You will find that many patients, to excuse or screen their own conduct, will thoughtlessly twist and distort the statements of a *confrère* so as to give them a totally different meaning to what was intended. In such cases the dignity of the profession is at stake. If you allow a brother practitioner to be misrepresented or slandered, you lower the dignity of your own calling.

Read and study carefully the little pamphlet on ethics published by the Canadian Medical Association. It will show you your duties, and a keen appreciation of them will go a long way to smooth any difficulties that may arise between yourself and your neighbours.

And finally, gentlemen, permit me to say a few words explanatory of the oath of allegiance you have just taken to your Alma Mater.

As professors and as graduates we are indissolubly connected together. As professors we shall rejoice in your success, as a college we shall share in your glory. But if dishonour befall you, we shall grieve and shall have to share a certain part of your shame. It is similarly with yourselves. The advancing success of your college will be a source of pride and honour to you.

Be assured, gentlemen, the motto of your Alma Mater will be ever Excelsior.

Thanks to the munificent gift of one who has already done liberal things for our University, our students of next year will find greatly improved lecture and class rooms. Our buildings will then rank among the best. But the glory of a college does not consist in its buildings, let them be never so replete with the means of instruction and investigation. Like the Roman matron when asked of her jewels, our College looks for her glory to her graduates, and to the good work which they may accomplish in the world. It is to you that we look to bear aloft the banner of old McGill in the various quarters of our great Dominion. It is to you that we look for assistance in our efforts to secure a higher and more practical education, and to obtain a wider and more extended sphere of usefulness.

The time will soon come when the anomalous position of our profession in the Dominion, split up as it is into petty provincial colleges, must be done away with, and when a general Dominion Board will be able to grant you a license, either on the strength of the diploma given in these halls, or, it may be, after an examination under which all will pass, and this one license, so granted, shall convey to all our graduates the privilege of practising in any portion of the British Empire.

Such a consummation can only be attained by our graduates supporting the efforts of our University, both by their votes and their personal influence.

Once more, gentlemen, we speak in sadness. It seems but yesterday that as a College we had to mourn the loss of Howard and Macdonnell. To-day we are again bereft. Your College group contains the face of one who is no longer with us. Before the present session was half completed Dr. George Ross passed away.

May he remain in your memory as he does in mine, an ideal teacher, clear and incisive in all his statements, a most able diagnostician, a courteous and generous *confrère*, and to a few a trusted friend. We all have our ideals in life. As a physician, he was one of mine.

Surely of him may it be said that he has gone

"to join the choir invisible
Of those immortal dead who live again
In minds made better by their presence; live
In pulses stirred to generosity,
In deeds of daring rectitude, in scorn
For miserable aims that end in self,
In thoughts sublime, that pierce the night like stars
And with their mild persistence urge man's search to vaster issues."

To but few students' lot does it fall to have more perfect exemplars than you have had in Richard Lea Macdonnell and George Ross.

Gentlemen of the graduating class, again godspeed. To each I say

Act well thy part, there all the honour lies.

FAREWELL !

LAZINESS.—The *Maryland Med. Jour.*, in an editorial on this subject, after detailing several cases, says:—"Our private opinion, deducted from the above observations, is that if a man loses inclination for work, who is not dissipated or morally depraved, has no hernia, does not wear a rectal plug, is not a physician, and does not draw a pension, he is probably suffering from some obscure disease and should receive careful medical examination and treatment."

—Seiger (*Med. News.* Jan. 21, '93) gives, as the cause of baldness in men, the wearing of heavy and impermeable hats, which prevent evaporation of perspiration and secretions, and to a certain extent macerate the parts. The pressure of the rigid hat band, by interfering with the circulation, is another factor in the causation of this disease.

—Sir Joseph Lister says that sponges should be boiled to render them sterile for use during operations. They should be placed in boiling water in a closed vessel for fifteen minutes. They are reduced in dimensions by this treatment but still fit for use.

Reviews and Notices of Books.

A System of Genito-Urinary Diseases, Syphilology and Dermatology. By various authors. Edited by Prince A. Morrow, A. M., M. D., Clinical Professor of genito-urinary diseases, formerly lecturer on dermatology in the University of the City of New York, Surgeon to Charity Hospital, etc. With illustrations. In three volumes. Vol. I. Genito-Urinary Diseases. New York, 1893: D. Appleton & Co.

This book is the first of a work which is to be completed in three volumes. Genito-urinary diseases make up the contents of the first volume, the second will be taken up with Syphilology and the third with Dermatology.

These subjects have become so important of late years that it was felt that one man could not be expected to write a book covering the whole ground; hence the editor has enlisted thirty-two contributors in the preparation of this volume, all well known as workers in the field of genito-urinary surgery. Each subject is assigned to a writer especially selected for his fitness, and some subjects are divided among two or more writers. Thus S. Lustgarten writes on the etiology of urethritis, G. E. Brewer on acute and Wm. K. Otis on chronic gonorrhœa, and Andrew F. Currier on gonorrhœa in the female. Diseases of the testicle are taken up by James Bell, Ed. C. Burnett and John P. Bryson, in three separate articles. The other contributors are:—Geo. Woolsey, Ramon Guiteras, F. Silden Brown, Hermann G. Klotz, Joseph J. Andrews, Frank Hartley, James P. Tuttle, J. Wm. White, W. T. Belfield, Jos. D. Bryant, Eugene Fuller, J. A. Fordyce, Willy Meyer, Sam'l Alexander, Geo. Ryerson Fowler, Alex. W. Stein, Francis Sedgwick Watson, Arthur T. Cabot, Lewis A. Stimson, Chas. W. Allan, John A. Wyeth, W. W. Van Arsdale, Ed. L. Keyes, Paul Thorndyke and Prince A. Morrow. The work embodies the results of the latest researches in this department of surgery, and contains much that is not to be found in an ordinary text book. The text is illustrated by numerous diagrams, halftone pictures, and chromo lithographs, and the publishers have carried out their part of the work in a most complete and thorough manner, quite worthy of the articles which make up the book.

Diseases of the Skin; their Pathology, Diagnosis and Treatment. By H. Radcliffe Crocker, M. D. (Lond.) F. R. C. P., etc. Second edition, with 92 illustrations. London: H. K. Lewis, 1893.

The first edition of this most excellent work has been out of print for some time, so we heartily welcome a second edition. We consider that Dr. Crocker's book is the best work in the English language on diseases of the skin that has been written during later years. It is written in a very pleasing style, and although thoroughly scientific and up to date, the discriptions of disease are clearly and simply put, and the treatment is always the result of experience. American authors are frequently referred to and their work fully recognized. In this edition many new articles have been included, such as those on Erythema Induratum, Pityriasis rubra pilaris, Morvan's Disease, Darier's Disease, Seborrhœic Dermatitis, Actinomycosis, Adenoma Sebaceum, Multiple Gangrene, &c. Dr. Crocker first gives the definition of the disease, then the symptoms and cause, diagnosis, etiology, pathological anatomy and treatment. The description of the pathological anatomy is always clearly expressed and very readable. The illustrations are chiefly connected with this department and are very good. At the end is a good formulary for the treatment of skin diseases, and there is also a very complete index. We can conscientiously recommend this work to all students and practitioners who want to get a thorough knowledge of skin diseases, as we consider it the very best of the larger works on dermatology.

An Introduction to the Study of Diseases of the Skin. By P. H. Pye-Smith, M. D., F.R.S. Philadelphia: Lea Bros. & Co.

This hand-book is a reprint of Dr. Pye-Smith's chapters on Diseases of the Skin, written for *Fagge's Practice of Medicine*. The descriptions of the various diseases are short and to the point, and written with the ability Dr. Pye-Smith has displayed in other departments of medicine. A number of diagrammatic cuts are introduced, chiefly to illustrate the local distribution of skin diseases, a point which has never, according to the author, received proper recognition from a pathological or a diagnostic standpoint. The references are chiefly to English authors, and especially to articles in Guy's Hospital Reports, so that the work reflects English, and especially London, views on present questions in dermatology. It is a work written by an eminent (general physician, who, in some degree, regards the subject from a broader standpoint than is generally the case with mere specialists. We can heartily recommend the book to all those who take an interest in dermatology.

The Hygiene of the Sick Room.—A book for nurses and others, being a brief consideration of asepsis, antisepsis, disinfection, bacteriology, immunity, heating and ventilation, and kindred subjects, for the use of nurses and other intelligent women. By William Buckingham Canfield, A.M., M.D., Lecturer on Clinical Medicine and Chief of Chest Clinic, University of Maryland; Visiting Physician to Bay View Hospital, etc., Baltimore. Philadelphia: P. Blackiston, Son & Co.

This book, the author states, is the outcome of a course of lectures delivered to the nurses in the University of Maryland Training School. It is a plain statement of the relationship between disease and bacteriology put in language that can easily be understood by any intelligent person. It contains much useful information regarding contagion, and the causation and spread of the infectious diseases. The infectiousness of tuberculosis is clearly shown and some excellent rules given for preventing the spread of this terrible disease. A chapter is devoted to the consideration of ophthalmia neonatorum, and the importance of immediate treatment insisted on. The diffusion of information regarding this disease is urged as a means of lessening the number of cases of blindness. Credé's method of prevention by dropping a two per cent. solution of nitrate of silver into the eyes of every infant born in the institutions of which he had charge is strongly recommended. Much good advice to mid-wives and nurses is given regarding the care of the eyes of new-born infants.

All the infectious diseases are treated of in the same way—from a popular standpoint, and we feel sure that much benefit will be obtained by all who carefully peruse this little work.

The Johns Hopkins Hospital Reports. Report in Pathology, II.—The report in pathology upon "Papillomatous Tumours of the Ovary" and "Tuberculosis of the Female Generative Organs," by Dr. Whiteridge Williams, is quite up to the usual standard of excellence which the reports of the work done at this hospital usually reach.

In beginning the first part of the report, Dr. Williams says that it has been his endeavour to supply the missing link in the chain of our knowledge of this subject. This he has succeeded in doing. The work is especially interesting to the gynæcologist and pathologist, but even a general practitioner cannot fail to be benefitted by his perusal of the volume. He divides papillary tumours of the ovary into two classes: (1) Papillary Cystoma, and (2) Superficial Papilloma After giving the various theories of the origin of the cystic form, Dr. Williams shows that they may develop from the Wolffian body, the Germinal Epithelium and the Graafian follicle, citing cases which show their origin from each. The plates, two in number, are well got up and are very clear.

The second part of the report deals with "Tuberculosis of the Female Genitals," and is quite as good as the above. Some original work is introduced, and the modes of infection, diagnosis, treatment and prognosis are fully entered into.

—Baillon, the botanist, was one day promenading with a school teacher and her female pupils in a botanical garden and came to a bed of sensitive plants. The old botanist said to the class, when a woman or young girl has lost her virginity the plant shrinks when touched. "Well," said the school mistress, "I am married and have no need to touch the plant." But one of the pretty pupils, a true daughter of Eve in curiosity, concluded to try the experiment, and the sensitive plant promptly wilted, whereupon she exclaimed, "How does it know!" and fled with the rest of her companions.—(*Ex.*)

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Reprint from *Chicago Clinical Review*, February, 1893.

Annual Report of the Governors, Principal and Fellows of McGill University, Montreal, for the year 1892.

The Clinical Examination of Breast Milk. By E. Emmett Holt, M. D.

Reprint from the Archives of Pediatrics, March, 1893.

Ununited Fractures in Children. By D'Arcy Power, M.A., M.B., Oxon, F.R.C.S., Demonstrator of Surgery at St. Bartholomew's Hospital, etc.

Reprint from the *International Journal of the Medical Sciences*, Vol. 103, 1892.

An Analysis of Seventy-two Cases of Ununited Fractures Occurring in the Long Bones of Children. By D'Arcy Power.

Reprint from Vol. LXXV of the Medico-Chirurgical Transactions published by the Royal Med. and Chir. Soc. of London.

—Ischerning, of Copenhagen (*Annals of Surg.*, April, '93) recommends massage of the muscles of the forearm as well as of the wrist and fingers in fractures of the radius eight days after the receipt of the injury.

—The *Twentieth Century* decides that we are becoming more fearful of death than our fathers. "The world is, as it were, hypnotised by medical and sanitarian terrorists and alarmists, until men are afraid to breathe the air of heaven, save through sanitary respirators; and one need not be surprised if after a generation or two a man will not venture forth from his home without a panoply of devices for protecting his precious life against germs, till, like the fully equipped knight of mediæval time or the last development of the war ship, he is made absolutely impregnable at the expense of his power of locomotion."

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 23rd, 1892.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

A Second Series of Cases of Transplantation of Skin after Thiersch's Method.—DR. BELL read a paper on this subject, and exhibited several cases to illustrate his remarks, which will appear in our next issue.

DISCUSSION.

DR. D. J. EVANS spoke of several cases he had observed in Prof. Thiersch's Clinic at Leipsic, and the treatment was always successful.

DR. FOLEY suggested that this method of skin grafting might be used with advantage in treating leucoderma and tattoo marks, by removing the affected skin and supplying new skin.

DR. SMITH asked how deep the skin had to be cut and if hair grew on the new skin.

The PRESIDENT—If tactile sensation was present.

DR. BELL, in reply, said that the skin is removed down to the true skin, not into it, for the fibrous tissue will interfere with union. The hair follicles are thus not taken, and often the only means of distinguishing the transplanted skin from the normal is by the absence of hair. The sensation is as good as in healthy skin.

Carcinoma of the Peritoneum.—DR. ADAMI exhibited specimens from a case of carcinoma affecting the peritoneum. The patient, a Polish Jew aged 25, was attacked by sharp epigastric pains about August, 1892. These were unremittent and were increased by ingestion of food. The abdomen was noticed to be enlarging in the first week of October, and the patient entered the General Hospital upon October 22nd, under Dr. Stewart. Upon entry the whole lower half of the abdomen was very painful, so much so that the patient was frequently forced to cry out. After admission the abdomen rapidly increased in size and the patient showed increasing emaciation of the rest of the body. There was constipation but no vomiting. The patient was tapped upon October 25th, and 120 oz. of a milky, turbid fluid were removed. The fluid was rapidly replaced, so that between this time and the death of the patient, upon December 12, the operation was repeated five times, from 115 to 170 oz. of fluid of the same milky nature being removed at each tapping. Nodular growths could be felt, after tapping, running in various directions; a prominent band ran across the abdomen about one-half inch above the umbilicus, and in the left iliac fossa a great aggregation of nodules could be distinguished. The post-mortem was performed by Dr. Martin, who forwarded the matted intestines *en bloc* to the Pathological Laboratory. The prominent band referred to above was evidently the thickened and much contracted great omentum, infiltrated with cancerous growths. The mesenteries also were greatly thickened and contracted. Numerous lenticular translucent growths, from 0.5 cm. upwards in diameter, were scattered over the peritoneal surface of both large and small intestines. These latter were matted together by soft recent inflammatory lymph. Apart from the infiltrated mesenteries and omentum which were fairly firm, the soft, almost gelatinous growth upon the intestinal wall was most marked around the splenic flexure of the colon and again at the beginning of the sigmoid flexure. At the splenic flexure all the walls of the viscus were involved and there was marked stenosis. Here probably was the origin of the carcinoma. The mucous membrane of the sigmoid flexure and of the rectum was unaffected.

Upon stripping off the muscular coats of the intestines the lymphatic plexus was found to be injected with fatty matter and the main lymph trunks could thus easily be traced to cheesy glands lying completely involved in the mesenteric new growth. A portion of this naturally injected submucosa was exhibited. Previously Dr. Adami had examined the milky-looking ascitic fluid and had found it to be almost wholly deficient in fat, though containing a large amount of proteid, noticeably of globulin.

It would seem, therefore, that in the condition of the lymphatic system is to be found an explanation of the pseudo chylous ascites here described—a form of ascites that not unfrequently has been noted in connection with carcinoma of the peritoneum. The mesenteric lymphatic glands become surrounded by new growth, the vessels passing off from them become occluded, hence from the distended lymphatics of the intestinal wall there occurs extravasation of the fluid of the lymph, the fatty globules, as shown in this case, being left behind, and forming an inspissated mass injecting the lymphatics. Did any of the distended lymphatics undergo rupture, then a condition of true chylous ascites would be induced, such as has been found by Reichenbach in a case of lymphadenoid disease affecting the mesenteric glands.

Microscopic examination of various regions proved that the new growth, although resembling colloid cancer in general appearance, was not of this nature—the alveoli were greatly distended and filled with mucoid rather than colloid material. In some the cells could still be seen, in others the cellular elements had almost wholly degenerated and given place to mucoid material. This form is by some spoken of as carcinoma myxomatodes, but inasmuch as that term is applied more frequently to cases where stroma, and not the alveolar contents undergo mucoid change, it is better to describe it as a myxo-carcinoma.

Cyst of the Right Ventricle.—DR. ADAMI exhibited a brain presenting this condition. At the autopsy the dura mater was found to be generally thicker than normal, and adherent to both calvarium and pia mater. Upon removal of the brain a cyst was ruptured and from this poured a clear, colourless fluid. The cyst was nearly two inches across in its largest diameter (the antero-posterior), and about one and a half inches in breadth, extending from under the angular gyrus and second occipital convolution forwards to a point one-half inch behind the ascending parietal convolution in the mid-parietal region.

Dr. Adami pointed out the facts that militated against this being considered a cyst formed by the breaking down of a glioma; that it was not a hydatid cyst, and that the appearance of the walls was strongly against its being an embryonic cyst. There was left the possibility of its being the sequel of an old hæmorrhage—yet the absence of any signs of pigmentation of the walls was against this supposition. It would be necessary to harden the brain and examine microscopically before any sure statement could be made.

Dr. Stewart said that the patient was a man aged 40, and who had suffered for the greater part of his life from headaches, which came on every week or every two weeks. Three weeks before death he was seized with a much more severe headache than usual; he began to lose control over his movements; he noticed that he stumbled against various objects; vomiting came on and he became soporose from which he passed into deep coma and death. There was no disturbance of vision and the eyes, on examination proved to be normal; there were no localizing symptoms.

Hernia of an Ovary through the Inguinal Canal, in an Infant. —**Dr. James Bell** related the case of a female child, twelve months old, upon whom he had been called to operate for inguinal hernia which had appeared during the course of whooping cough. Frequent attempts to reduce it had failed; it was hard and seemed like omentum. On cutting down the sac was found closely covering the tumour, and on removing the sac the hernia was found to be covered with peritoneum. On manipulation there was an obscurely hollow feeling. He (Dr. Bell) thought that it might be a volvulus and ligatured the pedicle and cut it off. After removal he was no wiser than before as to what the structure was, unless it was an ovary.

Dr. Adami said that he had examined the specimen and found that it was the ovary and fallopian tube of a young child. Towards the pedicle there were found undoubted tubercles. Here was an ovary in a false position and its weakened condition rendered it an easy prey, and Dr. Bell had done well to remove the tubercular focus.

Dr. Smith said that this was the second time he had seen this condition. Seventeen years ago he saw Mr. Golding Bird remove an ovary from the inguinal canal.

A Case of Poisoning by Chlorate of Potassium.—**Dr. Wyatt Johnston** gave the following history :—

The patient, a boy aged 10, on December 14th on getting up in the morning had a sore throat and did not feel well. He went to work, but during the day he felt so ill he returned home and his mother, thinking that he had quinzy, gave him a solution of chlorate of potassium to drink. The amount taken during the day was nearly two tumblersful of a saturated solution, equal to about six drachms, of the salt. In the evening Dr. J. A. Macdonald was called and found the boy in a dying condition, with intense cyanosis of the face and extremities. The autopsy was performed at the order of the Coroner. All the conditions indicated that death had been caused by the Potass: Chlorat: This salt destroys life by decomposing hæmaglobin into met-hæmaglobin. There were two ecchymotic spots, one on the inner surface of the left fore-arm and the other on the anterior surface of the right leg. On incision they were found to be due to extravasated blood of a dark coffee-brown colour and sticky consistency, and which did not change colour on exposure to air. The blood removed from the heart showed the characteristic appearances of met-hæmaglobin; it was thicker than normal, of a peculiar chocolate-brown colour. The kidneys, spleen, lungs, bone marrow, and brain, showed the characteristic brown colouration; urine contained a large amount of albumen but no blood or met-hæmaglobin. Spectroscopic examination of diluted blood gave deep absorption bands at C. and F. in addition to two paler bands at D. and E. which is characteristic of met-hæmaglobin.

The appearances might be mistaken for those found in acute infectious fevers, or poisoning by other substances which produce met-hæmaglobin, but here chemical analysis showed a large quantity of Potass: Chlorat:

DISCUSSION.

DR. BULLER thought that the susceptibility to the action of this drug was very great in some individuals. He had met with two persons, mother and son, who could not take it at all, five grains three times a day would make them quite ill.

DR. BELL asked if there is any hope of prolonging life when met-hæmaglobin has been formed—if there is any chance of it being eliminated?

DR. LAFLEUR wanted to know whether the salt was changed in the stomach, or whether it was absorbed unchanged and circulated as such in the blood? He referred to a case he had reported—a case of poisoning by potass: bichromat:—where the symptoms and conditions found were the same as in this case. One marked feature was the intensity of the rigor mortis and the length of time it lasted, for in seventy-two hours it had not disappeared. The blood was in the same condition and the lungs contained an abnormal form of gas of some kind.

Dr. Foley said that a dermatitis associated with this condition is very rare; only one case is recorded. Two cases of an erythematous rash have been reported.

Dr. Stewart said that potass: chlorat: may cause death by rapidly inhibiting the action of the heart or by the rapid degeneration of the heart muscle, without affecting the blood in any way.

Dr. Johnston, in reply, said that very little is definitely known of the changes in the blood. The production of methæmaglobin is involved in obscurity, and it is now considered to be a mixture of several compounds. He could not say what changes the salt undergoes in the stomach, but it appeared as such in the urine. As to treatment, bleeding and transfusion seem to be indicated, but he cannot find if this has been practiced. It has been stated that if the blood is strongly alkaline the change takes two or three times as long to be accomplished, so he suggested making blood alkaline, but such treatment is not supported by any clinical evidence. Intense engorgement of the brain with the altered blood seems to be the most likely cause of the rapid death.

Stated Meeting, January 6th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Simple Chronic Salpingitis.—**Dr. Adami** exhibited two very typical specimens of this condition, which he owed to Dr. Alloway. There was no evidence of tuberculosis. Both showed marked atresia towards the uterine end of the tubes, with considerable dilatation above this, and fibroid thickening of the walls. The tubes contained sanious pus.

Papillary Cysts—Adenoma of the Ovary.—**Dr. Adami** also exhibited a specimen of this condition sent to him by Dr. Alloway. There were extensive papillary growths into the cysts, which contained thin mucinous fluid.

Papillary Growths in the Lower Bowel.—**Dr. Smith** gave the following history: The patient, a tailoress by occupation, under my care for the last 10 or 12 years, complained of severe dysmenorrhœa, necessitating leaving off her occupation several days monthly. She also suffered from mitral regurgitation. In addition to dysmenorrhœa she complained of a pain in her left side, which persisted throughout the intermenstrual period. At last I decided on abdominal section. This was done two years ago; she made a good recovery, and the case was reported at the time. The pain, however, has not been altogether cured. Dysmenorrhœa, of course, ceased, with the exception of the first period after the operation; she has had no period since. The pain in the side and back still persisted. Soon after the operation she began to complain of passing small quantities of blood per rectum, which, at the time, I supposed was a sort of vicarious menstruation, this hemorrhage generally occurring at the menstrual period. After a time, however, she brought me some small pieces of flesh about the size of a split pea, one or several of which she noticed herself passing each time she had a hemorrhage of bright red blood. I at first thought them little polypi or warts. On examining the rectum I could find no growth there. On making a vaginal examination, however, I thought I could discover some thickening of the left vault,—some indication of an irregular shaped mass in the left iliac region, which, owing to the extreme corpulency of the patient, was difficult to outline. Hemorrhage increased steadily; last time there was a teacupful of bright red blood. She brought me several of the pieces referred to above, and which I handed to Dr. Adami for microscopic examination. It is important to ascertain whether these are parts of a simple or malignant growth.

Dr. Adami described the small growths in question. He pointed out that they were evidently hypertrophic growths of the mucous membrane. From their structure he considered that they had developed in the lower portion of the colon, and this opinion gained support from the bright, red, unaltered blood which passed out along with them. As to the question whether they were of malignant nature or no, he was inclined to consider them non-malignant; they contained comparatively few blood vessels—their glandular structure was typical, not atypical.

Dr. Adami exhibited a specimen of ulcerative colitis from the museum of McGill College, presenting very similar papillary growths. He pointed out the frequent relationship between the production of such papillary adenomata and chronic inflammatory disturbance. The increased nutrition in the hyperæmic zone around old ulcers, for example, may originate such overgrowth of the mucous membrane in these positions. Other cases of these papillomatous growths are, however, accompanied by no definite history of chronic inflammation.

Dr. Smith expressed his satisfaction with Dr. Adami's clear description of the condition present. His observations of the patient confirm Dr. Adami's remarks. She does not resemble a patient suffering from malignant disease. When her bowels are moved she suffers pain; and if the motion is hard its passage is followed by bleeding and pieces of tissue. In one of these pieces a little blood vessel was noticed.

Dr. Stewart—Was there much hemorrhage?

Dr. Reed—And how often did it occur?

Dr. Smith—A teacupful at the last occasion. As to frequency, it was generally at the time of her periods that the hemorrhage occurred; in the intermenstrual period it occurred very seldom and very slightly. The hemorrhage did not always amount to a teacupful.

Dr. England—Was there hemorrhage before the appendages were removed?

Dr. Smith—No. In removing the ovaries I noticed a subperitoneal fibroid on the back of the uterus, which I did not disturb, not wishing to complicate the operation. The appendages were very much inflamed and thickened, the ovaries also.

Dr. A. Lapthorn Smith read a paper on Tubercular Peritonitis, with report of a case treated by operation.

It is now three years since Dr. William Gardner read a most interesting paper before this society on abdominal section for tubercle of the peritoneum and uterine appendages, reporting at the same time five cases with two deaths. We have had no discussion, as far as I am aware, on this most important topic since then, and as I had a case of the same kind to report, I wrote my paper so as to give an opportunity for a discussion on tubercular peritonitis in general, and the operative treatment of it in particular. Having seen a good many patients die from this disease, under treatment with medicines, some of which cases were diagnosed and some were not, and having made post-mortem abdominal sections of a good many children who died from this disease at the East London Children's Hospital during my term of residence there, I have always taken a great deal of interest in the progress which our knowledge of this obscure disease has been making during the last ten years, and especially in the wonderful results of abdominal section as a means of cure. How is the disease contracted? How may it be prevented? How may it be diagnosed? And what is the best treatment? These are all questions of great practical importance.

I shall only attempt to throw out a few suggestions in reply to these questions, trusting that the professors of pathology, medicine, hygiene and abdominal surgery, who may be present, may give us from the abundance of their knowledge. In order to clear the ground for action I would like to begin by expressing my utter disbelief in the heredity of this disease, no matter where situated, whether in the respiratory organs or in the digestive organs, or even in the joints. That a great many children are infected by their tubercular parents after birth is easy enough to understand, but that a child born of tubercular parents, but never exposed to infection, either by bacilli-laden air or bacilli-laden milk, could acquire tuberculosis, is a thing of which I have never seen or heard the slightest proof. Any evidence which has so far been brought forward on this point would prove much more easily that measles was a hereditary disease. This question of infectiousness is much more important than one might at first sight suppose. For until the profession can be freed from the superstition of heredity there is little hope of tubercular diseases being stamped out, as they only can be by rigorous precautions against infection by the air or by the food.

If tubercular peritonitis then is not hereditary, as I hope no one here believes, by what means does the peritoneum become infected? Through the blood vessels? Or through the lymphatics? There would seem to be little doubt in the mind of pathologists that the lymphatics are the channels by which the bacilli gain admittance to the great lymph sac. The fact that the pleura and pericardium are connected with each other by lymphatics, and the frequency with which tubercular pleurisy and pericarditis exist as complications of tubercular peritonitis without the lungs being affected, together with the absence of bacilli in the blood, would place this contention almost beyond a doubt.

If this be the case the bacilli must be introduced by the digestive or genital tract. Let us take first the digestive tract. Although theoretically a few bacilli might be swallowed with air, practically this would be a very rare cause of the disease. The large number of tubercular cattle which are killed on the farms or in small towns and even in private slaughter houses in large cities, so as to escape inspection, and the quantities of milk from tubercular cattle supplied to young children and others would furnish a bountiful supply of bacilli for the purpose of infection. Another method which might be termed auto-infection is that in which a patient with tubercular disease of the nose or mouth or larynx, or still more often of the lungs, swallows the discharge from these ulcerating surfaces laden with bacilli. They then pass through the absorbents and are at once grafted on to the peritoneal surface. Before long they are surrounded by phagocytes and are walled off by inflammatory exudation, so that they appear as little colonies or miliary tubercles. This process, however, at the same time causes adhesions of neighbouring coils of intestine, producing more or less pain, abdominal distension and interference with the processes of digestion. Strange to say this does not always cause fever; on the contrary, the temperature is often below normal.

In a large number of cases, 40 or 50 per cent. of the females at least, the disease has been found to co-exist in the tubes. At first one might think that the disease in these cases had spread from the peritoneum down the fimbriated extremity of the fallopian tubes, were it not for the fact that in a large number of cases women have been known to suffer from tuberculosis of the vulva, vagina, uterus and tubes, without the peritoneum being at all infected. So that it is much more likely that the

222 cases treated by laparotomy with 84 recoveries, or 38 per cent. Judging from our experience in other departments of surgery, the result in the operative treatment of tubercular peritonitis will become much more favourable when the disease is recognised earlier, or when, in case of doubtful diagnosis, an exploratory incision is made, and no time is lost with unavailing treatment with medicine. The surgical treatment of obscure intra-peritoneal disease is yet in its infancy. So far, as a rule, we have only been allowed to operate when all hope has been abandoned and the patients are *in extremis* with an enormously distended abdomen, thready pulse, and cold extremities. There is a cause for every case of peritonitis, and if we know what that cause is we should operate to remove it, and if we don't know what the cause is we should operate to find out. As J. W. Ross says, guessing at the cause from without the abdominal wall will not help us. We know that it is an operable disease, that an early operation is of greatest value, while even in advanced cases it will frequently prolong life and possibly cure.

In one of Dr. Gardner's cases the abdomen was opened, inspected through an one and one-half inch incision, but nothing whatever was done; and yet the patient was decidedly improved if not cured by the operation. How can we explain a phenomenon which appears so inexplicable. The life history of bacteria, which is gradually being worked out by the devoted labours of the pathologists, appears to me to throw some light upon the mystery. The lower forms of fungi shun the light and air. Some of them may even be so delicate in this respect that sunlight and ventilation alone suffices to kill them. Not only in tubercular peritonitis, but in other forms of disease with effusion, the simple opening and drainage of the cavity has been noticed over and over again to have a very favourable influence on the disease. Lawson Tait says that he has seen tumours disappear, after laparotomy, in cases of disease of the liver, spleen and head of the pancreas. This has happened so often that it is impossible that it is a mere coincidence. He believes that the mere opening of the peritoneum has a direct influence in setting up the process of absorption. He thinks that some emphatic physiological change is at once set up by opening the peritoneal cavity, because there is a uniform onset of a most distressing thirst which lasts for days, and is not seen so markedly after other surgical operations. "Let the incision in the abdominal wall," he says, "be made down to the peritoneum, but let the serous cavity remain unopened, and this thirst is not marked; but let the peritoneum be opened but a finger's breadth and the result *is* marked." That a therapeutic change is effected in the peritoneum itself by the mere opening of the cavity is now universally recognized in the treatment of what we call tubercular peritonitis by abdominal section. This, however, is a question which I prefer to leave for fuller discussion to our pathologists.

I will now briefly relate my case, for in the words of Crofford, of Memphis, "The honest report of a single case will outweigh all the theory and speculation imaginable."

On the 22nd August, 1892, I was consulted at the Montreal Dispensary for the first time by Mrs. S., aged 32, mother of three children, last child three years old. My clinical assistant, Mr. Harry, obtained the following history. Her family history was good and free from any trace of consumption, as far as she knew. She had always had fairly good health until two years ago when she was troubled with a soreness in her larynx or windpipe, which also prevented her from swallowing any solids, and for which she consulted Dr. Birkett. He treated her for several weeks with great benefit, since which she remained what she considered well until a few months before coming to the dispensary, when she noticed that she was rapidly getting thin and her complexion was getting very dark, which she attributed to her liver being out of order. Occasionally the abdomen was sore and distended, and coitus and locomotion generally caused her pain. Menstruation had been scanty last two periods and had not come on this time. During the last few weeks she had diarrhœa and frequently felt hot and cold. She had no cough nor soreness of the throat, and her voice was very clear and strong. Her tongue was very coated, and her pulse 120, weak and almost dicrotic.

It is one of the rules at my clinic to take the temperature of every new patient, by which means acute febrile diseases are frequently recognized, which in the hurry of out-patient work might often escape detection. On this being done in this case the thermometer registered 103 under the tongue.

The patient presented a very emaciated appearance. On vaginal examination the cervix uteri was found to be lacerated on the left side and low down in the pelvis, while the left vaginal vault was fuller than normal and somewhat hard.

At the time she looked so like a typhoid case that I ordered her to go home and go to bed, to take a hot water vaginal douche once a day, and to take no other food but milk. On calling at her home next day the temperature was the same. A careful examination of the abdomen revealed the presence of three rose-colored spots which disappeared on pressure. She still had diarrhœa, which was so profuse and painful that I was obliged to give her opium and camphor and even that hardly stopped it. She was troubled with frequent micturition. There was also some abdominal distension, but there was no tumour to be felt, percussion giving, however, only a tympanitic note everywhere, for which I ordered turpentine stupes with considerable benefit. There was no dullness of the lungs on percussion, and ausculation showed that breathing was rather shallow and respiration a little prolonged.

During the next two weeks there was very little change in her condition, and I contented myself with treating the symptoms as they arose. If she had had pain in the right inguinal region instead of on the left I would have had no hesitation in coming to the conclusion that I was dealing with a case of typhoid fever, which at that time was rather prevalent in the city. Her temperature in the morning was nearly always a degree lower than at night.

After about two weeks, on making a morning visit, I found the temperature normal, and the skin which had been hot and dry was now bathed in perspiration. Although weak she felt better in every way and continued to improve for several days, so that I allowed her light farinaceous food in addition to the milk. As her temperature remained normal I yielded to her request that I should allow her to sit up. I did not see her for several days, owing to absence from the city. On my return I found her back in bed with a high temperature and rapid pulse and her abdomen distended and very painful on the left side. She also had a dry cough. She still had diarrhœa, for which I gave her bismuth, pepsine and a little morphine. There was only slight pain but no gurgling on the right side, but on making a little deeper pressure on the left side, I found the abdomen very painful and hard, and on making a bimanual vaginal examination to my surprise I discovered the left vaginal fornix as hard as a board, into which hardness the uterus and left tube and ovary were firmly imbedded.

Notwithstanding the presence of so many of the symptoms of typhoid, I now felt convinced that the case was one of tubercular salpingitis, which indeed it probably had been all along, and I therefore urged immedate operation for its removal. To this, however, the patient would not consent. She was now placed on quinine and codliver oil, alcohol and a generous diet, but her appetite remained poor until the oil was replaced with cream, after which she ate well. As she was under the impression that she would choke if she were to attempt to swallow any solid food, everything was cut very fine and, as far as possible, was first passed through a ricing machine.

Owing to her emaciated condition it was difficult to prevent bed-sores from forming in spite of every precaution. At last she found herself failing so much that she consented to the operation, which was performed on 24th October at her home, in which I was assisted by Dr. Ritchie and Mr. Smiley. The usual aseptic precautions were taken as far as her condition and the surroundings would permit, and she was easily anæsthetized with the A. C. E. mixture. Her abdominal wall was so thin that I cut through it layer by layer on the director, and it was fortunate that I did so, for the perietes and the omentum and intestines were all so intimately glued together that had I made an artistic single incision I should inevitably have cut through the bowels in several places, as indeed I once saw Olshausen himself do in a similar case. Even with this precaution I had difficulty in deciding when I had reached the peritoneal cavity. There was quite a thick layer of this organized lymph between the parietes and the omentum, but it was separated without much difficulty, when it became evident that the case was not localized in the appendages. In the right inguinal region there was a space the size of the palm of the hand where the omentum was not adherent, and the intestine could be seen to be covered with miliary tubercule. On the left side the omentum was very adherent to the abdominal wall right down to the inguinal region, but it was carefully peeled off until I was able to introduce two fingers down to the left tube as it came off the uterus. On attempting to lift the left appendages out in order to remove them I found that they were in a broken-down and cheesy condition, the tube breaking off about three-quarters of an inch from the cornu. A few handsful of caseous matter were then fished out; but the patient in her exhausted condition was too weak to bear any further prolonged manipulations without great danger, so the abdomen was carefully washed out with several gallons of sterilized hot water, a thin drainage tube was inserted, and the incision was sewed up with silk worm gut. A single hypodermic of morphia was administered, but after that she had little or no pain, not even the pain in the left inguinal region which she had had for some time before. The temperature also came down from 103 to normal and remained there for the two days the tube remained in but gradually rose again after its removal. A few ounces of blood were removed with a sucker during the next forty-eight hours, when the discharge becoming serous the tube was removed. During the next week she had frequently gushes of clear, water-like lymph from the vagina. She made such a nice recovery after the operation that I began to hope that she might eventually be restored to health, but two weeks and a half later she suddenly had a hemorrhage from the bowels amounting to at least a pint of blood. From that time she rapidly failed, dying a week later and three and a half weeks after the abdominal section. A post-mortem was asked for but refused.

Although the result was ultimately unsuccessful there is a good deal to be learned from the consideration of a case of this kind. First there was the insidious onset of the disease. The patient had been in fairly good health ever since her treatment by Dr. Birkett for some affection of the larynx until a few months before consulting me, and even then she only had the usual symptoms presented in women suffering from lacerated cervix. In fact, had I not taken her temperature I would have had good reason to suppose that that was the cause of her abdominal pain, disturbance of digestion, etc. On the other hand all the symptoms, the temperature included, pointed to typhoid in the second week. There was only one symptom partially missing, and that was the absence of pain and gurgling in the right inguinal region. There *was* pain there, but not so marked as on the left side. Then again, after a period of defervescence during which the temperature remained several days normal and even below normal, the temperature arose as in a typhoid relapse, while the profuse hemorrhage from the bowels coming on three weeks later would have rendered this opinion more probable, had I not had the diagnosis of tubercular peritonitis made positive by the abdominal exploratory incision. Judging from the thickness and toughness of the adhesions the disease must have been progressing for many months while the patient was going around and doing her work. Then again, this point emphasizes the value of an exploratory incision as an aid to diagnosis in doubtful cases. Many cases of tubercular peritonitis are diagnosed and treated as typhoid. I regret very much that a large piece of caseous material which represented the left tube and which I laid aside for microscopical section and examination for tubercle bacilli was thrown away by the nurse. However, that might have been negative in its result, for it does not always follow that the bacilli will be found. In fact, it is the exception to find them in undoubted cases of tubercular salpingitis. They are probably destroyed by the phagocytes, leaving nothing but the caseous debris of dead cells and bacilli. Another interesting question is this: Did the disease originate, or to be more definite, was the infection introduced by the *genital* tract and carried up the vagina, uterus and tube to the peritoneum? or were the bacilli introduced from the *digestive* tract into the peritoneum and thence into the tube? Numerous cases of both these methods of infection have been recorded. Some maintain even that the spermatoza from a tubercular husband may contain the bacilli, but the husband in this case was very healthy, and it seems unnecessary to fall back upon this hypothesis when there are so many easier ways for a woman to become infected. This may occur either with tuberculous sputa from her own or her husband's or her neighbours' lungs by means of her, his or their fingers or soiled handkerchiefs. In view of the fact that so many are so biassed by the doctrine of the heredity of consumption that they cannot recognize its terrible infectiousness, it is rare that precautions against infection are taken.

There are but few out of the thousands of tuberculous husbands, I fancy, who take the precaution of disinfecting their hands and penis before having sexual intercourse. According to Winkle 50 per cent. of the cases of tubercular peritonitis are infected by a tubercular salpingitis and the early removal of the diseased tube would have prevented it. The rest of the cases of tubercular peritonitis are infected by means of the digestive tract, the tubercle bacilli passing directly from the stomach and intestine into the peritoneal cavity. The bacilli may have been swallowed with infected meat or milk, which is probably the commonest method of all when the lungs are not affected, but more often still when the respiratory tract is primarily attacked the bacilli are swallowed with the sputum in large numbers. This was undoubtedly the source of infection in my case. Dr. Birkett probably treated her for tubercular laryngitis and cured her, but the cicatrix led to some distortion of the epiglottis which caused her difficulty in swallowing. At the time she swallowed enough bacilli to infect the peritoneum and the disease slowly progressed ever since without the symptoms being at any time sufficiently marked to call urgent attention to them.

Whence came the hemorrhage from the bowels? Doubtless from the ulceration of a tubercular focus eating through a large vein or artery in the wall of the intestine just as the same thing happens in tubercular disease of the lungs, and just as occurs in the ulceration of Peyer's patches in typhoid fever. That perforation of the bowels was *not* followed by fæcal extravasation, as generally happens in the perforation of typhoid, can be easily explained by the presence of a vast amount of dense adhesions in tubercular disease contrary to what is the case in typhoid, by which means the area about to be perforated by the tubercular ulceration is walled off from the rest of the peritoneal cavity.

If my brief resume of our present knowledge of tubercular peritonitis should draw forth some remarks from those here who are more able to instruct you than I, and if the report of my case will lead you all to come to a more speedy diagnosis and to adopt earlier what I believe is the only proper treatment, my very imperfect paper will have fulfilled the purpose for which it was so hastily written.

DR. ADAMI held that in this case probably all would agree that infection had occurred through the intestinal tract—the most usual cause of tubercular peritonitis. While infection could, and did, without doubt, originate through the genital passages in the female, he feared that obstetricians were wont to attach too much importance to this channel. Tubercular peritonitis is most frequent in children, and here there can scarce be a question of infection per vaginam.

With regard to operative treatment as a means of diagnosis he agreed with Lawson Tait, "When in doubt perform a laparotomy." It must, however, be remembered that in a very large proportion of cases, tubercular peritonitis tends to be very chronic, nay more, not unfrequently it tends to spontaneous cure or, rather, arrest. The explanation of its frequent slow course, especially in children, is to be found in its connection with the milk diet of those affected. As Bollinger, Bang, Woodhead and others have proved, there is an intimate association between tuberculosis in the cow and the tubercular peritonitis in children.

Dr. Adami dwelt to some length upon the nature of this tubercular disease in the cow, and pointed out the frequent difficulty in diagnosing the same. He indicated that by centrifugalising the milk the bacilli could be determined with comparative ease, while diagnosis might be aided by the employment of Koch's tuberculin. It has of late been fairly satisfactorily proved that tubercle bacilli from different animals possess different degrees of virulence; there are, in fact, varieties of the bacillus in question, and cultures obtained from the cow are of less virulence than those obtained from cases of acute tuberculosis in man. In this way, he considered, might be explained the milder nature of many cases of tubercular peritonitis, especially in children. It is not uncommon, in conducting autopsies upon children of twelve years of age and over, to find that the peritoneal cavities are perfectly sound, yet certain of the mesenteric glands are cheesy, indicating a condition of tuberculosis that has passed off, leaving but these traces.

With regard to Dr. Smith's explanation of the fact that opening the abdominal cavity may lead to cure, Dr. Adami could not agree with him that simple ventilation of the cavity was the cause. He was of opinion that a far more likely cause was to be found in the irritation induced by the operation, and washing out—the inflammation set up in excess of what obtained previously. With this might be compared the increased inflammation and increased absorption that accompanied the injection of tuberculin, etc.

Dr. Reed expressed his pleasure at listening to Dr. Adami's remarks. He noticed that in the *British Medical Journal*, of this week, one or two points mentioned were in a line with the opinions of Doctors Smith and Adami. Several eminent men, Robson and others, said cases with a good deal of dropsy were most likely to do well, and that those cases which were most likely to do well after laparotomy were most likely to do well without it. Supposing, of course, that a patient has tuberculosis of the larynx, it is more than simple peritoneal tuberculosis, and the prognosis would be worse.

Dr. Stewart: I would like to ask if there was any record of the length of time which elapsed after operation, before these cases were reported. The majority of those cases were given as cured, but the date of the report after operation is not given. Surgeons are apt to report cases too quickly after operation; the results are called cures; but six months or three years afterwards they would not be cures.

Dr. Smith: Twenty-three out of ninety were well twelve months afterwards; twenty-seven were well six months afterwards. The time was not given for the whole number, but one reporter states as above. Dr. Gardner's cases were reported here three years ago, and two out of the five were well one year afterwards.

I have listened with a great deal of profit and pleasure to Dr. Adami, but there are still a few things I would like to ask him. During the discussion on Dr. Gardner's cases, the general opinion was, that the cheesy material in the tubes was the cause; they were the nidus. At the time, I thought the cheesy material was the result of the bacilli. Was I correct in supposing the cheesy deposits in the tubes the result of the destruction of tissue by bacilli?

I can appreciate the statement that irritation of the peritoneum, and increased supply of blood, may serve to carry off some of this inflammatory deposit; it seems both plausible and reasonable. Leucomatous deposits on the cornea are thus cured by the irritation of calomel powder. But as to washing out the abdomen accounting for the irritation in every case, in one of my cases there was no water put in, and yet the case was well one year afterwards.

Dr. Adami's statement concerning the difference in virulence of the bacilli in cattle explains very well indeed what I could not understand before—how tuberculosis of the peritoneum was so much slower in its progress than tuberculosis acquired otherwise. One more question: When one examines the miliary tubercles in the peritoneum, are the bacilli found there? or, are they destroyed by phagocytes? or, is the little tubercle composed of fibrous tissue without cells? and, in cases of cure, how does the peritoneum be after the cure? are the adhesions still devoid of a history? have the bacilli a certain life history? do they die of old age? or are they killed by phagocytes?

Dr. Adami pointed out the absence of any certain demonstration that the tubercle bacilli form spores. There can, however, be little or no doubt that these microbes have a resistant form very tenacious of life. Old tubercular foci may be examined with the greatest care, and no bacilli be discovered, but the same material injected into the guinea pig will cause definite and generalised tubercular lesions. As to the action of phagocytes upon tubercle bacilli, much depends upon the virulence of the latter. Often the bacilli can be seen within the giant cells, presenting changes in appearance which are only explicable on the assumption that they are being destroyed; but along with these one sees others that stain well and show no departure from the normal. These we may look upon as being alive and active—although this need not necessarily be the case, for, as Prudden has demonstrated, recently killed bacilli may take up the stain with readiness.

MONTREAL CLINICAL SOCIETY.

Stated Meeting, April 8th, 1893.

J. A. SPRINGLE, M. D., IN THE CHAIR.

Dr. **HACKETT** read the report of a case of "Cystic Degeneration of the Chorion," and showed the specimen. The patient was about three months pregnant and suffered from irregular uterine hæmorrhage. She also had passed some reddish water per vaginam. As rest in bed did no good, the vagina was plugged, with the result that pains were set up and a mass of cysts were expelled from the uterine cavity. No remains of a fœtus were found, but there were some traces of a placenta. The mother made a good recovery. In reply to Dr. Reddy, Dr. Hackett stated that he could obtain no history of syphilis. Dr. Bruére had pronounced the specimen to be one of cystic chorion.

Dr. **SPRINGLE** then read the report of a case of "Post-partum Syncope." The labour was the patient's fourth and was quite easy, very little chloroform being required. There was no hæmorrhage, but the patient gradually became very weak and blanched. Respiration was sighing and the pulse very rapid and weak. Abdominal pressure by means of a pad, and inversion brought about very speedy recovery. The immediate cause was probably flow of blood into the large abdominal venous trunks from the intra-abdominal pressure being greatly diminished by the emptying of the uterus.

Dr. **GORDON CAMPBELL** considered the explanation to be a good one, as the condition was analogous to the collapse occasionally seen on suddenly emptying the abdomen of fluid. He cited a case of the latter. Atropine had been administered just before the operation, which lessened the probability of the cause being nervous.

Dr. **REDDY** considered chloroform as a cause. In cases which he had observed, lowering the head and pressure on the abdomen had relieved the condition.

Dr. **HALDIMAND** had attended one woman in three labours, in each of which there was syncope, probably due to her being weakened by too rapidly succeeding pregnancies. She recovered each time without treatment.

Dr. **Orr** saw a patient whose perineum was ruptured during labour. There was no collapse until he inserted the needle to mend the tear. This pointed to a nervous origin.

Dr. **Gunn** agreed with Dr. Orr. Nerve storm, caused by fright and pain of labour, passes off, leaving the patient collapsed. Blood vessels hardly could dilate and contract in so short a time as was occupied by some of these attacks. All cases should be carefully treated and watched afterwards, so as to guard against œdema of lung, etc. Myxomatous degeneration of the heart is said to follow this condition. If simply due to reduced abdominal pressure, you would expect collapse just after the waters have come away, and not after the child is born.

Dr. **Elsdale Molson** thought that we should not throw too little stress upon the intra-abdominal pressure and venous theory. In Dr. Gordon Campbell's case, the intra-abdominal pressure was very high. It was suddenly reduced by drawing off the fluid rapidly, and syncope was thus produced by the blood pressure being insufficient to stimulate the heart to act.

Dr. **Lockhart** said that cases of post-partum syncope should be divided into two classes. (1) syncope immediately after delivery, and (2) that occurring after 24 or 36 hours; or else into cases following hæmorrhage and those where no hæmorrhage had occurred. He had lately seen a case where it had occurred nine days after an easy delivery, the puerperium being normal until then. Digitalis relieved the condition. The patient had had a similar attack after her two previous labours, but in those cases it had come on just after delivery. Her temperament is decidedly neurotic. The nervous system plays a great part in the majority of cases of post-partum syncope, as well as that which occurs after operations on the perineum or uterus. The latter organ receives its chief nervous supply from the sympathetic, which communicates with the ganglia of the vagi. These in turn send fibres to the heart, which are cardio-inhibitory in function, so that it is seen how easily the heart may be affected reflexly from the uterus. As atropine paralyses the peripheral terminations of those cardio-inhibitory fibres, Dr. Bruére suggests its administration as a routine practice in all cases of severe labour. The case cited by Dr. Campbell probably was due, as he suggested, to the suddenly reduced intra-abdominal pressure, so one would not expect atropine to have any effect.

Dr. H. D. HAMILTON then read the paper of the evening on "Malignant Sore Throat."

In the remarks which followed, Dr. GUNN said that the case and specimen offered peculiarities rarely seen, and that one should be very careful about diagnosis in such cases. He did not know of any case of gland cancer of the soft palate previously recorded. The clinical evidence of tumours was often more significent than the pathological. In answer to Dr. Gordon Campbell, Dr. Gunn said the discrepancies in the theories of parasitic cancer occurring in different sites was explained by a tumour tending to resemble the tissue in which it grew. Innoculation cannot produce cancer in the human subject, but it can in the rat. A similar organism exists in the liver of rabbits, which is non-toxic to the adult, while very deadly to the young animal.

Dr. SPRINGLE dwelt upon the importance of clinical symptoms in diagnosing any growth. He said that the scirrhus form of cancer had been more worked out than any other. The nature of the coccidia is undecided.

After Dr. HAMILTON had replied, and the disposal of some private business, the meeting adjourned.

—Nash (*Lancet*, Feb. 6, '93) reports a case of fracture of a rib, just beneath the angle of the scapula, during a severe fit of coughing.

SPOTTED FEVER.—A press despatch of the 21st February stated that spotted fever was epidemic in Marshall County, Kentucky. Fifty deaths were reported.—*Texas Sanitarian*, February, 1893.

INSURANCE AGAINST TWINS OR TRIPLETS.—According to the *N. Y. Med. Examiner* the Provident Bounty Association of London has started a new form of insurance, that is against too rapid increase in a family. When an addition is expected in a family the father deposits £5 and so becomes a policy holder. Should his wife present him with twins he gets £50, and for triplets £75. The company has a large capital and the directors are well-known and influential business men.

Selections.

A Method of Treating Compound Fractures.—The present paper deals with a method for treating compound fractures and with the results of that treatment as illustrated by the cases admitted into the author's wards at the London hospital during the last six years.

The method aims at being simple, and in the following account it may be considered as applied to the commonest of compound fractures, viz., those of the leg:

On admission, the limb is covered with lint soaked in carbolic lotion and is subsequently cleaned with the greatest care; protruding bone is replaced, loose or damaged bone is removed, and the broken ends are adjusted by means of splints with as little delay as possible.

1. Ordinary well-padded wooden splints are employed, but under no circumstances is the limb secured to the splint by means of strapping. Strapping may be used to form a stirrup whereby extension may be applied in fractures of the femur or humerus, but no form of plaster appears to be other than objectionable when the question of fixing the limb is concerned. If the strapping be adjusted with sufficient firmness, it will often be found that within twenty-four hours the limb has swollen and the strips of plaster are cutting into the soft parts and are impeding the circulation. The strapping then has to be cut or reapplied, and a second adjustment of the limb is rendered necessary. On the other hand, in process of time, the band of strapping is found to have come loose from shrinking of the limb, and a further readjustment of the fractured parts is called for. In the place of plaster, straps of fine webbing and buckles are made use of to secure the limb to the splint. These vary in length, and are applicable to all parts. If found to be too tight or too loose they can be altered as often as necessary in the day without the least disturbance of the limb. In this way the limb can be secured with a proper degree of firmness. Where the webbing crosses the shin or the dorsum of the foot a small shield made of gutta-percha, and lined with lint, is interposed. When side splints are employed these also are held in place by straps and buckles.

No bandages are ever applied. They are quite unnecessary. They cannot be readily tightened or loosened, and they cover up to an undesirable extent the damaged parts.

2. In the second place the limb is kept throughout in the open air. This would happen by necessity, more or less, in the case of the upper limb, but it is insisted upon also in all fractures of the lower limb in which there is a wound. If the principles of aseptic surgery be well founded, a worse atmosphere with which to surround a wound could scarcely be found than that which exists under the bedclothes. This atmosphere is confined, is hot and moist, and when flatus is passed or the bed-pan is used must of necessity become especially offensive. In all compound fractures of the leg or thigh the limb is kept throughout entirely uncovered as well by night as by day and in the winter as in the summer. In cold weather the nurse makes a cotton wool cap for the foot, but during the six years in which this rule of uncovering the limb has been observed there have been no complaints of chill or evils arising from exposure. It might be mentioned that in the author's wards in all cases of wound of the lower limb, including amputation wounds, and in all cases of ulcer, the part is kept throughout the whole period of treatment uncovered save by the necessary dressings, and that since this plan has seen adopted the results have been infinitely improved.

3. The third element in the treatment concerns the care of the wound. In cases of compound fracture there is usually a not inconsiderable amount of bleeding and an oozing from the wound which will often be continued for many days. It is very desirable that this fluid should not be pent up in the limb, and that it should be allowed the freest possible means of escape. The plan of sealing the wound with collodion may be spoken of in general terms as bad. It can in no way control the oozing, which may long continue from the damaged parts, and merely confines within the recesses of the limb a fluid which is admirably adapted for the development of bacteria.

While a free exit should be given for all discharges of blood and serum such a barrier must, at the same time, be erected as will prevent the entrance of pus-producing bacteria. A dressing of antiseptic gauze wool may possibly meet these conditions, but in a large proportion of cases such a dressing needs to be very frequently changed, and such a change cannot always be effected without disturbing the position of the broken bones and putting the patient to no little inconvenience.

In the present collection of cases the wounds have been simply covered by a heap of dry antiseptic powder, which has been applied without stint. This covering of powder may be considered to seal the wound so far as the possible entrance of bacteria is concerned, while at the same time it in no way impedes the free escape of blood and serum from the damaged parts.

The discharge finding its way into the protecting powder forms with it a harmless scab or crust. As the powder becomes saturated, more and more of it is applied, but the crust produced is not disturbed. In certain cases the oozing continues for many days, and in one or two instances the crust produced has exceeded the size of the adult fist. The powder employed has been iodoform or creolin. The latter has been found to be the more convenient. For the first few days the powder may need to be dusted on every few hours, and as the limb is kept always uncovered the saturation of the crust can be at once noticed. When no more blood is found to be escaping the powder is discontinued, and some seven days after this period the artificial scab is removed and the wound beneath may be expected to be healed or to be healing.

When the laceration occurs upon the upper surface of the limb there is no difficulty in covering it with powder. When it is placed upon the sides of the extremity a platform of cotton wool must be so fixed in place that the powder when dusted upon it will bury the wound. The cotton wool may be kept in position by fixing it against the side splints, or by attaching it to the skin by gum.

The following advantages may be claimed for this method. It is simple and requires but the simplest appliances. The fracture when once adjusted need not be again disturbed. The damaged part is kept exposed to view, and the position of the ends of the bone can be ascertained at any moment.—Frederick Treves, F.R.C.S., in *Annals of Surgery*, Feb., 1893.

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MUNIFICENT GIFTS TO THE MEDICAL FACULTY OF McGILL UNIVERSITY.

The generous friends of McGill University have remembered its Medical Faculty in a way which has gladdened the hearts of its many well-wishers. We have first to chronicle the bequest of $10,000 made by Mrs. Dow to the general fund of the Faculty. Mr. J. H. R. Molson, one of McGill's most generous benefactors, recognizing the great work done in the past by the Medical Faculty, has nobly come forward with a gift of $60,000 to enable the Faculty to continue and further extend its great sphere of usefulness. This sum is to be devoted to additions to the present buildings. It will be mainly expended in providing for three laboratories, viz., for chemistry, pathology and hygiene. The Faculty, through these means, will be placed in a position equal to that of the most advanced European schools. The teaching of hygiene in future will be mainly conducted in special laboratories, thus giving students a practical insight into the great problems of Preventive Medicine. In the past such knowledge could only be imperfectly acquired through didactic teaching.

A third gift the Faculty owe to the princely generosity of the University's Chancellor, Sir Donald A. Smith. This is a sum of $100,000, to be devoted to the endowment of the chairs of pathology and hygiene. The Medical Faculty have great cause for thankfulness for Sir Donald Smith's generosity. He was the first to recognize the claims of medicine in a tangible and never to be forgotten way. In 1882, while the Faculty were celebrating the semi-centinary of its existence, the late Dr. Palmer Howard read a letter from Sir Donald Smith promising the Faculty the sum of $50,000, provided an equal amount were raised within a definite period. Through the exertions mainly of the late and the present Dean this latter amount was secured, and at once Sir Donald Smith paid over the sum of $50,000, the Faculty thus being placed in the possession of a sum which amounted to upwards of $100,000. The same generous benefactor again comes forward with a sum which places the Faculty in a position to have pathology and hygiene taught by men who are not compelled to practice in order to earn their daily bread. The Faculty have already secured the services of an eminent pathologist, Dr. Adami, late of Cambridge University. He has proved himself to be a teacher and observer of a high order.

The impulse that these donations will give to scientific medicine will be felt, not only locally, but generally throughout the country, and not the least beneficial effect will be that they may act as a stimulus to the wealthy citizens of other Canadian and American cities to do likewise.

ASIATIC CHOLERA.

With the departure of winter the danger of the importation into our midst of cholera returns. Soon our port will be filled with vessels from various parts of the world, and with the hot weather the danger begins. The disease is still epidemic in Russia, and cases have been recently reported in Italy and France, so the danger to us is far from being imaginary.

But by taking precautions the danger can be lessened if not entirely abolished. A correspondent of the ***British Medical Journal***, writing from Asiatic Turkey, says:—"The infection is powerless among people who are careful to cook all water and food. . . . In a native house near us, where sanitary rules were strictly obeyed, one of the women in bravado drank three cups of unboiled water, saying to the rest, 'Let's see what it will do.' She died in just twenty-four hours." This points out the key-note of the preventive treatment of cholera. As the American physician said, "Boil your ice!" Do not rely on filters, for most of them form very suitable places for the multiplication of bacteria of all sorts, and the water, while apparently purer, may in reality come from the filter containing more germs than before. If you wish to avoid cholera eat only well cooked food and drink only boiled water, and clean up the back yard.

SIXTIETH CONVOCATION OF THE MEDICAL FACULTY OF McGILL UNIVERSITY.

The annual convocation for conferring degrees in medicine at McGill University was held in the William Molson Hall on Tuesday afternoon, April 4th. Mr. S. Finley presided, supported by the members of the University. The graduating class occupied seats directly in front of the platform, and the hall was filled with friends and relatives, come to offer good wishes and congratulations.

Rev. Dr. Cornish opened the proceedings by offering up prayer, after which Dean Craik read the report on examinations.

The medals and prizes were then awarded, the recipients being loudly cheered as they stepped forward to receive the reward of hard study, after which the graduating class came forward to receive their degrees, the oath being administered by Dr. Ruttan, and the "capping" performed by Prof. Johnson. Dr. Blackader addressed the class. (See page 825.)

Dean Craik then addressed the gathering, speaking as follows:—In reviewing and summing up the work and events of the past year, according to our usual custom on Convocation day, I shall have occasion to refer very briefly to circumstances of a somewhat varied character. Some of them have been sources of grief and sorrow to us; some, while causing us more or less anxiety, have, upon the whole, given us cause for satisfaction and hopefulness, while others of a more recent character have carried away our doubts and fears in a full tide of gratitude and rejoicing.

For the first time in many a year our medical convocation is held to-day without the presence and assistance of our much loved principal, Sir William Dawson, to whose wise counsels, great talents and unselfish devotion every department of this University owes so much. It will be good news to Sir William's host of friends to be told that his health has been greatly restored by his winter's residence in the South, and that there is a probability of his being present at, and taking some part in, the proceedings of the approaching Convocation of the Faculty of Arts.

Following closely after Sir William's illness came the illness and death of Dr. George Ross, Professor of Theory and Practice of Medicine and Vice-Dean of this Faculty.

Dr. Ross's failing health for some years had made the end not altogether unexpected, but the death of such a man as Dr. Ross is always a calamity to those with whom he has been associated, and by his death the Faculty finds itself with a blank which it will be difficult adequately to fill. As a professor and teacher Dr. Ross was a man of whom any University might be proud. His professional insight was clear and accurate, and he had in an uncommon degree the faculty of imparting his knowledge in a clear and impressive way. He was not given to much speaking, nor could he be said to carry his heart upon his sleeve, but his word was ever as good as his bond, and his actions were always better than either. In him the students have lost a valued preceptor and guide, and the University a talented and trusted officer.

The very considerable increase in the number of our students this year, and the increased numbers from outlying provinces and countries have been matters for sincere congratulation. While the provinces of Quebec and Ontario still continue to furnish the largest number—122 from Quebec and 102 from Ontario—the Maritime Provinces furnish this year no fewer than 63 students; the United States send 13; the Western Provinces and Territories 9, and the West Indies 3; making a grand total of 312, the largest number by 21 in the whole history of the Faculty. These figures are interesting, not only as indicating numerical growth, but as showing that the University is outgrowing its provincial limits, and may now fairly begin to claim to be representative of the whole Dominion, and, indeed, to be to an appreciable extent cosmopolitan in its character.

Such considerations as these are interesting, not only in a sentimental sense, but as conveying an important lesson and involving a distinct and serious responsibility. If we are to attract students from an ever-widening area, and to send them away again as graduates to work in every part of the world, we must see to it that their equipment is equal to their needs, and that their training is the best that we can possibly provide for them. As an abstract proposition it would seem impossible that the limited English-speaking population of Montreal, in the French Province of Quebec, should be able to furnish such an equipment and such a training; but, thanks to the enlightened enterprise and the great liberality of some of the citizens of Montreal, what seems impossible in the abstract is being accomplished in the concrete. Hospitals and laboratories and scientific workshops are springing up around us on every side like castles in a fairy tale, and the end is not yet, for the only apparent limit to the generosity of our benefactors is the limit of our real needs.

Our Faculty has watched with much anxiety for several years the gradual overcrowding of its lecture rooms and laboratories, until the present session saw them overflowing to a serious extent, and students lounging in the lobbies unable to gain admission to the crowded rooms. Such a state of things could not, of course, be allowed to continue, and the Faculty determined to borrow the necessary funds to enlarge its buildings, trusting to be able to meet the interest on the outlay by increased economy in other directions. To carry out our views, however, it was necessary to lay the matter before the Board of Governors, and to ask them to acquire for our use the necessary land on which to erect the proposed new buildings. The land was estimated to cost twenty-five thousand dollars, and the proposed buildings thirty thousand more, making a total of fifty-five thousand dollars required to provide the increased accommodation.

Scarcely had we made known our need and our wishes before Mr. John H. R. Molson, one of our senior governors, expressed his desire to come to our relief, and to save the remnant of our endowment fund, from which we had proposed to borrow, by placing at our disposal the sum of sixty thousand dollars, a sum greater by five thousand dollars than the estimated cost of the whole proposed extension.

It is difficult to find words to express our appreciation of such spontaneous and princely generosity, for it not only relieves the Faculty from all anxiety about accommodation for the increasing number of its students, but it leaves unimpaired the bulk of the Leanchoil and Campbell memorial funds, the interest from which forms so important a part of the ordinary revenues of the Faculty. This act adds another to the many obligations under which the University has been placed by Mr. Molson, by his amiable and much respected wife, and by other members of his family.

Other timely and valuable gifts and bequests have also been made to us during the year. The late Mrs. Dow bequeathed to us the sum of ten thousand dollars, of which, however, one-tenth has been taken by the Provincial Government. Mrs. McDougall, of Dorchester street, has given us five hundred dollars to be added to our permanent fund and promises us five hundred more; and a gentleman who withholds his name has contributed five hundred dollars towards the expenses of pathology during the current year. These generous gifts have given us the means of adding greatly to our facilities for teaching, and they have furnished us with incentives to increased earnestness and energy in endeavouring to prove ourselves worthy of such generosity. We fully realize this responsibility, and it shall be our care to show our appreciation of it, not only by unceasing efforts on the part of every one of us to do his full duty to the best of his ability, but when a vacancy occurs we must unselfishly endeavor to fill it with the best available talent, wherever it is to be found.

Acting already upon this principle, we have brought from the ancient University of Cambridge, England, our new Professor of Pathology, Dr. Adami, with a reputation as a teacher and as a scientific investigator already well established both in Europe and on this continent. Professor Adami has already won golden opinions among us and his advent has very appreciably added to our working strength.

A renewed attempt has been made during the present year to damage the prestige of the Faculty, and through it, of the University, by hostile and vexatious legislation. An attempt has for the third time been made to impose upon our graduates seeking a license to practice in this Province, an additional examination before a so-called Central Examining Board, consisting chiefly of practitioners from the country districts, unskilled in the methods of modern examination, and without the necessary appliances of laboratories, anatomical rooms or hospitals. To subject the graduates of a respectable University to such an examination would be a step backwards, would be unfair to graduates educated and trained in modern methods, and would be a degradation to the University.

As there seemed to be at least a possibility of the measure becoming a law, unless it were strongly resisted, it was resolved to oppose the measure by every constitutional means, and to that end a strong deputation, consisting of governors, deans and other representatives of faculties, as well as representatives from other Universities, waited upon the Government at Quebec, and was heard before the Committees of both Houses, to whom the measure had been referred, and the University had the satisfaction of seeing the measure defeated in the lower House by a decisive majority. It is to be hoped that the attempt to pass such a law will be abandoned, but the attempt itself will have borne good fruit, if the resistance to it shall have tended to bind together more closely the different faculties and governing bodies of the University, as well as to bring the other Universities of the Province into more harmonious action.

But, in conclusion, ladies and gentlemen, much as we have to be grateful for, and, believe me, we are grateful, I feel that I may without offence say that we have not yet all we need. Pathology, in a way, has been provided for, though the chair has no endowment, but following closely upon the heels of pathology comes hygiene, carrying with it the whole domain of Public Health and the Prevention of Disease. These matters are too important to be ignored, or to be omitted from any scheme of medical education that claims to be fairly complete, and the Faculty, therefore, cannot rest until they have been provided for. That they will be provided for, I cannot for a moment allow myself to doubt;. but in what manner such provision is to be brought about I cannot, of course foretell; but when it has been brought about the Medical Faculty of McGill University will occupy a position far in advance of any medical school in Canada, and not to be over-shadowed by the very best and strongest on this continent.

The Dean then read a letter from Sir William Dawson, dated from Oakland Heights, N.C., in which he spoke of his improved state of health and expressed the hope of once more being in Montreal this month.

He also read the following letter from Sir Donald A. Smith, which he had received during the progress of the meeting:—

1157 DORCHESTER STREET, 4th April.

DEAR DEAN CRAIK—In the conversation I had with you some little time back regarding the present position and prospects of the Medical Faculty of McGill, I was much pleased to learn that the recent liberal donation by Mr. John H. R. Molson of $60,000 would enable you amply to provide for the necessary additions to your medical buildings.

You, however, pointed out a present want which, when properly met, would, in your opinion, place McGill fully on a par with any medical school on this continent or in Europe. In this you referred to the necessity for providing adequate salaries for professors of pathology and hygiene who, without having to resort to the ordinary practice of their profession, ought to be in a position enabling them to give their time and attention exclusively to their professional duties. In this view I entirely concur, and to aid in forwarding it, it gives me much pleasure to hand you herewith my cheque, No. 0462, of this date, on the Bank of Montreal, to your order for $100,000, which, will you kindly dispose of accordingly?

Regretting that being confined to the house from the effects of a cold, I am unable to be with you at to-day's convocation.

Believe me, dear Dean Craik,
Very sincerely yours,
DONALD A. SMITH.

The announcement was received with cheers and prolonged applause.

Prof. Johnson, on behalf of the entire University, congratulated the Medical Faculty on the gifts it had received. Sir Donald's liberality was well known, and the example he had now given was worthy of commemoration in some way. He supposed that later on something would be done in that way by the Medical Faculty. He pointed out that among the prize-winners were a number of graduates in arts, and spoke of the advantage it was to a student to take a course in that faculty before entering the medical or other faculties.

Rev. Dr. Cornish pronounced the benediction, and the proceedings terminated.

Report of the Medical Faculty of McGill for the Session 1892-93.

The total number of students enregistered in the Medical Faculty during the past session was 312, of whom there were from :—

Quebec	122	Prince Edward Island	11
Ontario	102	North-West Territories	4
New Brunswick	30	Manitoba	3
Nova Scotia	22	West Indies	3
United States	13	British Columbia	2

The following gentlemen have passed their Primary Examinations, which comprise the following subjects: Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Physiology Practical Physiology, Histology, and Botany:

Anderson, D. P	New Liverpool, Que.
Anthony, X. L	Berwick, N. S.
Bailey, J. W., B.A	Northfield, Minn.
Basken, J. T	Dunravin, Ont.
Beatty, E. D	Nepean, Ont.
Bishop, C. W	Montreal, Que.
Blow, T. H	South Mountain, Ont.
Boucher, R. B	Peterboro, Ont.
Bouck, C. W	Inkerman, Ont.
Carron, F. B	Brockville, Ont.
Chapman, H	Port Elgin, Ont.
Colvin, A. R	Lethbridge, N.W.T
Cooper, M. A	Ormstown, Que.
Commins, E	St Stephen, N. B.
Cowie, W., B. A	Montreal, Que.
Cruikshank, A	Inverness, Que.
Day, J. L	Montreal, Que.
Davis, R. E	Fallowfield, Ont.
Feader, W. A	Iroquois, Ont.
Fox, C. H	Oxley, Ont.
Gleason, J. H	Cowansville, Que.
Grant, J. P	Pictou, N. S.
Gun, Arthur	Durham, Ont.
Hargrave, J. L., B.A	Rosedale, Man.
Hogg, L., B. A	Winnipeg, Man.
Jakes, R. W	Merrickville, Ont.
Johnston, F. E. L	Deleware, Que.
Kearns, J. F	Metcalf, Ont.
Kerry, R. A	Montreal, Que.
King, J. H	Chapman, N.B.

Knapp, H. G., B.A	Sackville, N.B.
Lambly, W. O	Ripon, Que.
LeRossignol, W. J., B.A	Montreal, Que.
Leslie, P. C	Montreal, Que.
MacLeay, A. A., B.A	Montreal, Que.
Matheson, R	Cardigan, P.E.I.
Mason, R	Dalesville, Que.
Merrick, J. H	Merrickville, Ont.
Oliver, W., B. A	Rockburn, Que.
Phillimore, R. H	Cookshire, Que.
Price, B. S	Springfield, N. B.
Reeves, Jas	Woodstock, Ont.
Saunders, E. H	Eganville, Ont.
Scott, W. H	Owen Sound, Ont.
Sharpe, E. M	Havelock, N.B.
Slack, T. J	Waterloo, Que.
Stearns, C. N	Montreal, Que.
Spearman, F. S	Hemmingford, Que.
Tees, J., B. A	Montreal, Que.
Wickham, W. W	Summerside, P.E.I.
Whyte, J. T., B. A	Osgood, Ont.

The following gentlemen have fulfilled all the requirements to entitle them to the degree of M.D., C.M. from the University. In addition to the primary subjects mentioned, they have passed a satisfactory examination, both written and oral, on the following subjects : Principles and Practice of Surgery, Theory and Practice of Medicine, Obstretrics and Diseases of Women and Children, Pharmacology and Therapeutics, Medical Jurisprudence, Pathology and Hygiene,—and also Clinical Examinations in Medicine, Surgery, Obstetrics, Gynæcology and Surgery, conducted at the bedside in the hospital :

Aylen, E. D	Aylmer, Que.
Blunt, H. W	Knowlton, Que.
Bostwick, W. E	Toronto, Ont.
Brown, J. A	Sarnia, Ont.
Cameron, J. D	L'Original, Ont.
Carroll, R. W	Stratford, Ont.
Coburn, A. D	Keswick, Ridge, N. B.
Cooper, M. A	Ormstown, Que.
Deeks, W. E., B.A	Williamsburgh, Ont.
Dewar, T. A	Sarnia, Ont.
Dewar, G. F	New Perth, P.E.I.
Du Vernet, Edward	Gagetown, N.B.
Fleming, G. W	Chipman, N.B.

Goff, H. M., B.A	Woodville, P.E.I.
Gunter, F. B., B.A	Fredericton, N.B.
Haight, M	New Durham, Ont.
Hall, M.K	Franklin Centre, Que.
Henderson, J. A	Orangeville, Ont.
Jakes, R. W	Merrickville, Que.
Jamieson, W. H	Montreal, Que.
Lawrence, J. W	Lower Dumfries, N.B.
Lindsay, W	St. Mary's, Ont.
McArthur, A. D	Kenmore, Ont.
McKay, R. B., B. A	Toronto, Ontario.
McKenzie, S. R	Hamilton, Ont.
McLennan, K	Dunvegan, Ont.
McMillan, W	Alberry Plains, P.E.I.
McMorrine, R. F	Richmond, Que.
Masten, C. H	Lacolle, Que.
Matheson, R	Cardigan, P.E.I.
Mills, W. C	Montreal, Que.
Moore, J. M	Belleville, Ont.
Phillimore, R. H	Cookshire, Que.
Rorke, R. F	St. Thomas, Ont.
Seguin, J. W. A	Rigaud, Que.
Scane, J. W	Chatham, Ont.
Semple, E. J., B. A	Montreal, Que.
Shaw, G. F	Ottawa, Ont.
Shaw, T. P	Montreal, Que.
Tomkins, J. E	Coaticooke, Que.
Walker, J. L	Montreal, Que.
Whyte, J. T., B.A	Osgoode, Ont.
Wilson, R	Montreal, Que.
Yearwood, C. A., B.A	Barbadoes, W. I.
Yates, H. B., B.A	Brantford, Ont.

Mr. T. W. Hewitson has passed all the examinations required for the degree of M.D., C.M., but is not of age. He will receive his degree on attaining his majority.

The following gentlemen have obtained First Class Honors in GYNÆCOLOGY:

1 Cameron, J. D.
2 Deeks, W. E., B.A.
3 Semple, E. J., B.A.
4 McMorine, R. F.
5 Lindsay, W.
7 Mills, W. C.
8 McKay, R. B., B.A.

The following gentlemen have obtained First Class Honors in HYGIENE:

1 Deeks, W. E., B.A.
2 Cameron, J. D.
Lindsay, W.
Ross, D. W.
5 Henderson, J.
6 Lautermann, M.
7 Blunt, H. W.
Brown, H. W.
Haight, M.
Masten, C. H.
Stearns, C. M.
12 Bostwick, W. E.
Hume, G. W.
Robertson. A. A., B.A.
15 Du Vernet, E.
16 Seguin. G. W. A.
Whyte, J. T., B.A.
18 Shaw, G. F.
Shaw, H. S.
20 Hewitson, S. W.
Lambly, W. D.
Manchester, G. H.
Wilson, R.

The following gentlemen have obtained First Class Honors in OPHTHALMOLOGY and OTOLOGY:

1 Cameron, J. D.
Tomkins, J. E.
3 Deeks, W. E., B.A.
4 Henderson, J. A.
7 Wilson, R.
5 Semple, E. J.
6 Lindsay, W.

Third Year.

The following gentlemen have obtained First Class Honors in PATHOLOGY:

1 Robertson, A.A., B.A.
2 McIntosh, L. Y.
3 Shaw, H. S.
Jacques, H. M.
O'Connor, E. J.
Nicholls, A. G., B.A.
7 Bazin, A. T.
Davidson, A.
9 Pritchard, J., B.A.
10 Byers, G. M. W.
11 Fry, F. M., B.A.
12 Colvin, A. R.
Fowler, E. S.
Hart, E.C.

The following Gentlemen have obtained First Class Honors in MATERIA MEDICA:

1 Pritchard, J., B.A.
2 Richardson, A.
3 Fry, F. M., B.A.
Davidson, A.
5 Byers, G. M. W.
McIntosh, L. Y.
7 Bazin, A. T.
8 Wolf, C. G. L., B.A.
9 Nicholls, A. G., B.A.
Robertson, A. A.
11 Colvin, A. R.
12 Hart, E. C.
Ross, J. J.
14 Kinghorn, J. McL., B.A.
15 Manchester, G. H.
16 Ross, W. D.
York, H. E.
18 Richarson, A.
Jacques, H. M.
20 Holohan, P. A., B.A.
O'Connor, E. J.
Reeves, Jas.
23 Gorrell, C. W. F.
24 McLaren, J. F.
McCrea, J.
Mathewson, G. W.
Shaw, H. S.

The following Gentlemen have obtained First Class Honors in MEDICAL JURISPRUDENCE:

1 Nichols, A. G., B.A.
2 Byers, G. M. W.
4 Robertson, A. A., B.A.
5 Fry, F. M., B.A.
6 Drysdale W. F.
7 Davidson, A.
8 Pritchard, J., B.A.
9 Ross, J. J., B.A.
10 Quirk, E. McG.
11 Colvin A. R.
12 McIntosh, L. Y.
13 Hannigton, J. P.

Second Year.

The following gentlemen have obtained First Class Honors in the PRIMARY SUBJECTS :

1 Le Rossignol, W. J., B.A.
2 Feader, W. A.
3 Wickham, W. W.
4 Bouck, C. W.
5 Oliver, W., B.A.
6 Carron, F. B.
7 Cruikshank, A.

The following gentlemen have obtained First Class Honors in PHYSIOLOGY :

1 Wickham, W. W.
2 Anthony, X. L.
  Bailey, J. W.
  Feader, W. A.
  Le Rossignol, W. J., B.A.
6 Oliver, W., B.A.
  Bouck, C. W.
8 Anderson, D. P.
  Cruikshank, A.

The following gentlemen have obtained First Class Honors in CHEMISTRY :

1 Steeves, C. P., B. A.
2 LeRossignol, W. J., B.A.
3 Feader, W. A.
4 Wickham, W. W.
5 Cruikshank, A.
  Shaw, H. M.
7 Carron, F. B.
8 Anthony, X. L.

The following Gentlemen have obtained First Class Honors in ANATOMY :—

1 Le Rossignol, W. J., B.A.
2 Bouck, C. W.
3 Feader, W. A.
4 Bailey, J. W.
5 Wickham, W. W.
6 Bishop, C. W.
7 Basken, J. T.
8 Carron, F. B.

First Year.

The following gentlemen have obtained First Class Honors in BOTANY.

1 Kendrick, N. N.
2 Ellis, G. H.
3 Brunelle, P.
  Robins, G. D. B. A.
  Secord, J. H.
6 Smith, R. E. G., B. A.
7 Fisk, W. M.
8 Hogg, L., B.A.
  Shaw, R. B.
  Tetreau, T.
11 Ferguson, J.B.
  Howell, M. B.
13 Lynch, D. P.
  Stackhouse, O.C. S.
  Warren, I. T.
16 McTaggart, D. D.
17 Deacon, G. R.
  Wheeler, F. H.
19 Jackson, F. S.
  McAlister, D. H.
  Trudeau, M. A.
22 Argue, J. F.
  Kelly, J. R.
  Morse, L. R.
25 Kemp, H. G.
  Moffatt, W. A.
  Fraser, H. B., B. A.
28 Campbell, E. J.
29 Curran, T. J. J.
  Donahue, M.

MEDALS AND PRIZES.

THE HOLMES MEDAL is awarded to William Edgar Deeks, B.A., of North Williamsburgh, Ontario.

THE FINAL PRIZE is awarded to John Alexander Henderson, of Orangeville, Ont.

THE PRIMARY PRIZE is awarded to W. J. Le Rossignol, B.A., of Montreal.

THE SUTHERLAND MEDAL is awarded to Walter John Le Rossignol, B.A., of Montreal.

THE CLEMESHA PRIZE is awarded to R. B. McKay, B.A.

PROFESSOR'S AND DEMONSTRATOR'S PRIZES.

THE BOTANY PRIZE is awarded to W. N. Kendrick, of Austin, Minn.

THE CLINICAL CHEMISTRY PRIZE is awarded to H. N. Goff, B.A., Woodville, P.E.I.

THE OBSTETRICS PRIZE is awarded to R. B. McKay, B.A., of Toronto.

THE SENIOR ANATOMY PRIZE is awarded to W. J. Le Rosignol, B.A., of Montreal.

THE JUNIOR ANATOMY PRIZE is awarded to Edward William Archibald, B.A.

HONORS AND PRIZES.

FINAL YEAR.

The following gentlemen have obtained First Class Honors in the FINAL SUBJECTS:

1 Deeks, W. E., B.A.
2 Henderson, J. A.
3 Cameron, J. D.
4 Yearwood, C. A., B.A.
5 McKay, R. B., B.A.
6 McLennan, K.
7 Semple, E. J., B.A.
8 Haight, M.
9 Tomkins, J. E.
10 McArthur, A. D.
11 Wilson, R.

The following have obtained First Class Honors in SURGERY and CLINICAL SURGERY:

1 Deeks, W. E., B.A.
2 McKay, R. B., B.A.
3 Haight, M.
4 Yearwood, C. A., B.A.
5 Henderson, J. A.
6 Shaw, T. P.
7 Fleming, G. W.
Gunter, F. B.
9 Hewitson, T. W.
10 Cameron, J. D.
11 Dewar, G. F.
12 Bostwick, W. E.
13 Goff, H. M., B.A.
McMorine, R. F.
15 Lawrence, J. W.
16 Semple, E. J., B.A.
Wilson, R.

The following gentlemen have obtained First Class Honors in MEDICINE and CLINICAL MEDICINE:

1 Deeks, W. E. B.A.
2 McLennan, K.
3 Henderson, J. A.
4 Cameron, J. D.
5 Tomkins, J. E.
6 Yearwood, C. A., B.A.
7 Semple, E. J., B.A.
8 McArthur, A. D.
9 Lawrence, J. W.
  Cooper, M. A.

The following gentlemen have obtained First Class Honors in OBSTETRICS:—

1 Deeks, W. E., B.A.
2 Henderson, J. A.
3 Mackay, R.B.,B.A.
  McArthur, A. D.
5 Cameron, J. D.
  McLennan, K.
  Wilson, R.
8 Dewar, T. A.
  Yearwood,C.A.,BA.
10 Shaw, J. P.
11 Fleming, G. W.
  Lindsay, W.
  Scane, J. W.
14 Rorke, R. F.

By direction of the Committee of Organization of the Pan-American Medical Congress, the following gentlemen have been elected an Advisory Council in the Section on Pathology:—Dr. W. H. B. Aikins, Ontario Medical Journal, Toronto; Dr. Allen J. Smith, University of Texas, Galveston, Texas; Dr. G. H. F. Nuttall, Johns Hopkins University, Baltimore; Dr. W. T. Howard, jr., 804 Madison Avenue, Baltimore; Dr. W. E. Gardner, Long Island College Hospital, Brooklyn; Dr. Ira Van Gieson, 437 West 59th street, New York; Dr. Thos. G. Lea, University of Minnesota, Minneapolis; Dr. Joseph McFarland, Philadelphia; Dr. Henry W. Cattell, Philadelphia; Dr. E. H. Wilson, Hoagland Laboratory, Brooklyn; Dr. James E. Reeves, Chattanooga, 201 McCallie Avenue; Dr. Henry Dickson Bruns, Morris Building, New Orleans.

INFANTICIDE BY THE INGESTION OF PIECES OF SPONGE.—An infant of five months died suddenly in Haute-Savoie. At the autopsy eight dark grey bodies were found in the stomach. These proved to be fragments of sponge which had been given to the child with criminal intent, and which had been the cause of death. This is the only case of the kind in the annals of legal medicine.—*Repertoire de Pharmacie*, Jan. 10, '93.

—A physician was represented in Egyptian hieroglyphics by the picture of a duck. Our advices do not state whether this was because he was looked upon as a quack, or because he was a favourite among the fair sex.—*Med. Record.*

THE

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Original Communications.

A SECOND SERIES OF CASES OF SKIN TRANSPLANTATION BY THIERSCH'S METHOD.*

BY JAMES BELL, M.D.

Surgeon to the Montreal General Hospital; Associate Professor of Clinical Surgery McGill University.

In December, 1887, just five years ago, I read a paper before this Society entitled, "*The Treatment of Ulcers by the Transplantation of Large Pieces of Skin after Thiersch's Method.*" I then described the operation in considerable detail and gave full clinical reports of the first six cases on which I had operated,—(the patients were also presented for examination) To-night I venture to offer some further observations upon this operation, based upon the reports of thirty-six cases operated upon in the hospital since that time. These cases are taken from the hospital books, and this series includes only those in which an operation was definitely undertaken for the purpose of healing a wound or ulcer. Minor cases in which the area to be covered was estimated at less than two square inches, and all those cases in which skin was transplanted in the course of another operation, as in the removal of small cancerous or lupoid ulcers from the face, webbed fingers, plastic operations, etc., are not included. Case 31 is an exception to the first part of this statement and was included here on account of the great age of the patient (74 years). The area to be covered for chronic ulcer in this case was about one and a half square inches.

Age—In age the patients range, as will be seen from the appended tabulated statement, from 10 to 74 years, there being six patients under 30, five of whom were operated upon for ulceration due to burns, and one for ulcerations caused by a machinery accident, seven patients between 30 and 40, two of them due to burns, seven between 50 and 60, eight over 60, and three whose ages are not noted, but all of whom were over 40 and operated upon for chronic ulcer.

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* Read before the Montreal Medico-Chirurgical Society, Dec. 23, 1892.

Lesions—Twenty-five patients were operated upon for chronic ulcers of the legs, in six of whom both legs were operated upon at the same time. Two were operated upon for acute ulceration of the arms following burns *i.e.*, within a few months of the accident; one for extensive burns of the face, neck, hands and arms, three for chronic ulcers following burns, *i.e.*, ulcers which for months or years had ceased to make any progress towards healing, and three for contracted keloid cicatrices following burns. These cicatrices were dissected away and skin transplanted. One was in the axilla binding the arm to the side, one in the popliteal space flexing the leg to a right angle, and one in the lower part of the face and neck flexing the chin upon the breast and everting the lower lip. The first two of these were operated upon in two stages, that is, the scar first removed and the limb replaced in its normal position of extension, and the skin transplanted some weeks later, when the deep irregular spaces had become filled up with granulation tissue. Of the two remaining cases, one was operated upon for destruction of skin, muscle and periosteum of tibia by machinery, and one was transplanted after removal of a large epitheliomatous ulcer of the leg.

Results—In thirty-three of the thirty-six cases here reported the ulcers were completely healed—that is, covered with a good, sound skin in three weeks after operation. The three cases, 28, 33 and 36, in the appended table in which healing was not completed in three weeks will be referred to individually later on.

In the criticisms which followed the reading of my first paper on this subject, the opinion was expressed that the skin thus reproduced would not last, but that the old areas of ulceration would soon be in the same condition as before operation. I could not then answer this objection from personal experience, but I can now say most emphatically that such is not the case. In proof of this statement I have here to-night the first patient on whom I operated in August, 1887. On three different occasions since the operation he has developed small ulcers upon the same leg, which absolutely refused to heal until they were scraped and skin grafted upon them. In every instance, moreover, the ulcer appeared, not upon the skin which had been transplanted and which remained perfectly normal, but just outside the border of the transplanted area. Three cases of this series (2, 22 and 25) returned for operation a second time. In all three the ulceration had begun in the old skin outside the originally transplanted area and at the time of operation in each case more than half of the originally transplanted skin remained sound, while extensive ulceration had occurred outside its border. Cases 2 and 3 were first transplanted from an amputated leg, the operation beginning in the first one hour and in the second two hours after the removal of the limb; no result. Case 2 of my first series was a professional beggar and returned to the hospital since I reported his case with ulceration of his leg, which, like the preceding cases, was much more extensive in the surrounding skin than in the previously transplanted area. He declined to have his leg operated upon a second time, as he depended upon this ulcerated condition to secure him his livelihood from a sympathetic public. Case 28 was that of a man aged 41 who came to hospital twenty-nine days after having been burnt with ignited varnish. His whole face, neck, forearms and hands were extensively and in places deeply burnt. He was delirious and very ill (thought to be suffering from iodoform intoxication). One eye was destroyed and the other seriously damaged. On this account Dr. Buller was associated with me in the treatment of the case. Seven weeks after admission I proceeded to transplant skin, and in order to give Dr. Buller an opportunity to complete the treatment of the eye, I transplanted skin from the patient's thighs to his forearms and hands, while Dr. Buller transplanted a small area in the immediate vicinity of the eye. In three weeks the parts transplanted were completely covered with skin; a normal result. As I had at the first operation pretty well denuded his emaciated thighs and calves, and the face and neck were still to be dealt with (with the exception of the limited area around the eye transplanted by Dr. Buller), I advised the patient to secure some person who would allow the skin to be taken from his thighs and transplanted to the patient's face. As he was a private patient and able to pay he adopted my suggestion, and four weeks later the face and neck were transplanted with skin in this way. The young man from whom the skin had been taken was sent into the ward to allow of the healing of the thighs, when it was found that he was very ill and feverish. He had only been cursorily examined and had not been under observation at all before the operation. Further examination showed that he was in the second week of typhoid fever, from which he recovered after a very severe illness My patient in the meantime became ill and feverish, and the skin which had been transplanted necrosed and separated within ten days, and considerable areas of ulceration again appeared upon the hands which had been perfectly healed. Some weeks later another man was secured and skin transplanted again. The final result, especially as far as the face was concerned, was not perfectly satisfactory, as the skin only took in places and a great deal of contraction followed. In this connection it is interesting to note that Herr Sick, first assistant in Schede's Klinik, Hamburg, records a case (Centralblat fur Chirurgie, No. 44, 1892), in which skin transplanted to the head of a ten-year-old girl from the thighs of two healthy young men, healed completely, but in the course of three weeks it broke down and as completely disappeared. A second attempt to cover the defect with skin from a sister of the patient of about the same age was unsuccessful, and only at the third operation, when the skin was taken from the patient herself, was the operation successful.

Case 35, operated upon two weeks ago and still in hospital, is that of a ten year old girl suffering from contraction of the chin upon the chest and great eversion of the lower lip by cicatricial tissue, the result of a burn. Only a little more than half of the skin transplanted has taken in this case. The imperfect results in these two cases I attribute to the great difficulty in dressing the wound in this situation (the face), so as to retain the strips of skin in position and maintain asepsis,—in fact the latter is impossible in the immediate neighborhood of the mouth and nostrils.

Case 33, a feeble old man aged 65, with very weak circulation and suffering from asthmatic attacks, was operated upon November 18th, 1892. He had suffered from a chronic ulcer for thirty years, but about July last it became painful and began to grow hard about the edges. On admission to hospital the hard nodules about the edges were examined microscopically and pronounced to be epithetical cancer. The whole ulcer was dissected out, wide and deep, and skin immediately transplanted. The area covered was 9½ by 6 inches. The strips of skin have all taken, but granulation points crop out between the strips in places and show much less tendency to heal than in ordinary cases. In transplanting a surface so large and so uneven as this was after dissection, it was impossible to place the skin so accurately as not to leave some little spaces uncovered. These are the spaces which still show granulation between the strips of skin. On the whole nineteen-twentieths of the surface was covered with healthy skin at the end of three weeks, and this case only differs from the others in that there is apparently not the same tendency to rapid extension of normal epithelial growth from the edges of the transplanted strips.

Case 34, a boy aged 13, met with an elevator accident on the 3rd of October last, whereby the skin, fascia, part of the tibialis anticus muscle, and a large portion of the periosteum, from the middle third of the antero-lateral surfaces of the tibia were torn off and stripped down to the ankle. These parts were replaced as well as possible, but their vitality had been destroyed and sloughing followed. When the sloughs had been removed the leg was dressed carefully from time to time until the bared surface of the tibia was covered with granulations. Skin was then transplanted in the ordinary way on the 22nd of

November last. The dressing was removed on the eighteenth day after operation, when the wound, which measured 10½ inches in its greatest length by 6½ in its greatest breadth, and completely encircled the leg at its inferior extremity, was found to be completely healed.

Case 36 may be briefly mentioned as a type. A young man aged 18 had both his legs burnt by falling into boiling soap in August, 1889. Healing progressed rapidly for a time and then became gradually slower and slower, until, for more than a year before admission, no progress whatever had been made, and an ulcer remained on the posterior surface of each leg about the junction of the middle and lower thirds. Thirteen days after operation the skin was found to have taken perfectly. I am enabled to present this patient for your inspection on this the sixteenth day after operation. With regard to the operation itself, it is sufficient to say that perfect asepsis, a broad-bladed and sharp razor, and ordinary manual dexterity, are the essentials to success. No preparation of the patient nor the part to be operated upon is necessary beyond the cleansing processes which are necessary in every operation.

Several of the patients here reported were taken from the out-patient department with filthy clothing and skin, and foul-smelling ulcers, direct to the operating room (having of course had a bath and thorough cleansing of the parts to be operated upon). A single dressing of dry sublimated gauze, which is usually removed at the end of the third week, is the only after-treatment necessary. When this is removed the newly developed skin is protected for a couple of weeks with a pad of gauze and a bandage. In those cases in which skin was transplanted to the face and a single dry dressing was impossible, the wound was kept moist with normal salt solution as recommended by Thiersch. This form of dressing is far more troublesome and less satisfactory than the dry dressing. All the cases here reported have been operated upon at a single operation,—that is the ulcer was scraped or dissected out and the skin applied immediately. In cases where it is necessary to dissect out a large area of skin (such as case 32) it would undoubtedly be better to apply a gauze dressing for twenty-four or forty-eight hours to stop the oozing of blood, which is considerable, and transplant the skin at a second operation.

NOTE.—Cases 32 and 35, which were not completely healed when the foregoing was written, have recovered perfectly,—the former in six weeks and the latter in five.

	NAME.	AGE	SEX	LESION.	RESULT.
1	Fitzgerald	50	M	Chronic ulcer of leg	Perfect healing in 3 weeks. [twice.
2	Parizeau, Olivier	52	M	do do (both)	do do Operated upon
3	Sheehan, James	39	M	Contraction of right thigh Chronic ulcer following burn	do do
4	Foster, Ber	35	M	Chronic ulcer of leg following scald	do do
5	Hudson, Henry	19	M	Acute ulceration of both arms	do do
6	Riley, Ann	56	F	do of leg—burn	do do
7	Hartney, John	60	M	Chronic ulcer of leg (both)	do do
8	McCabe, J	60	M	do do	do do
9	Moag, John	30	M	do do	do do
10	McLean, John	32	M	do do	do do
11	Hagan, Mary	...	F	do do	do do
12	Reid, John	57	M	do do	do do
13	Jones, Julia	50	F	do do (both)	do do
14	Jeff, Wm	67	M	do do	do do
15	Donaley, R	41	M	Ulcer of forearm, machinery accident	do do
16	Ramsay, Mary	..	F	Chronic ulcer of leg	do do
17	Hoskin	60	M	do do	do do
18	Morelle, Joseph	63	M	do do	do do
19	Hafferty, Annie	39	F	do do (both)	do do
20	Senecal, E	21	M	Contract'g cicatrix of ankle after burn	do do
21	Smith, Kate	45	F	Chronic ulcer of leg (both)	do do
22	Braceland, Patrick	35	M	do do	do do
23	Brown, Wm	29	M	Acute burn of both arms	do do
24	Parizeau, O	56	M	Chronic ulcer of leg (both)	do do [twice.
25	McVeigh, E	46	M	do do	do do Operated upon
26	Duff, Rosy	59	F	do do	do do
27	Cunningham, Hy	....	M	do do	do do
28	Mowat, John P	41	M	Acute ulceration of face, arms and hands	do in 3 months. do in 3 weeks.
29	McGarry, Mr	63	M	Chronic ulcer of leg	
30	Braceland, P	36	F	do do	do do
31	Piles, Mrs	74	M	do do	do do
32	Moore, Samuel	65	M	Epithelioma of old ulcer of 30 years standing	Completely healed in 6 weeks.
33	McVeigh, James	46	M	Old chronic ulcer following injury	do in 3 do
34	Valiquette, Nap	13	M	Sloughing of skin after injury	Healing complete in 18 days.
35	Franklin, Alie	10	F	Contracting cicatrix after burn	Complete healing in 5 weeks.
36	Lapthorn	18	M	Chronic ulcer following burn	Perfect healing in 13 days.

At the time, the uterus appeared to be held down by this band.

The patient made a good recovery, and the adhesion was subsequently divided. Adhesion in this case probably was the result of her first confinement.

Whether the condition was responsible for the repeated abortions, I am unable to say positively, as she has not become pregnant since.

ANOMALOUS CASES OF PRIMARY NASAL DIPHTHERIA.*

By H. S. Birkett, M.D.,
Demonstrator of Anatomy and Lecturer on Laryngology, McGill University; Laryngologist to the Montreal Dispensary.
And Wyatt Johnston, M. D., Montreal.

Clinical Histories—By Dr. Birkett.

Case I.—K. E., aged 7. This little girl I was asked to see in consultation with the late Dr. Ross, in reference to a discharge from the right nostril. She was just recovering from a sharp attack of measles and was considered to be progressing favourably until the day before the consultation, when it was noticed that there was a thin, ichorous discharge from the right nostril, and during the day the voice became a little husky. The following morning when seen, the child was found sitting up in bed and enjoying herself with her toys, and apparently very well. Upon examination of the nose, just making its appearance within the right naris, was seen a thin membrane, quite white in colour, rather leathery in consistence, readily raised from the mucous membrane covering the septum, leaving its surface studded with several bleeding points and only in contact with the mucous membrane of the opposing inferior turbinated bone by reason of the swollen condition of the mucous membrane itself—these two conditions being sufficient to occlude that naris—the skin of the upper lip was somewhat reddened, excoriated and moist from the moderate acrid discharge coming from the affected nostril. The left nostril, after the application of a 5 per cent. spray of cocaine, was seen, by a careful examination, to be entirely free of anything like membrane and quite patent to respiration. The child was extremely tractable and permitted a perfect laryngoscopic examination to be made, revealing the presence of a very delicate, transparent membrane, situated upon the laryngeal surface of the epiglottis and extending directly downwards, not laterally, to and upon both vocal cords; the membrane was so delicate as to allow of the underlying hyperæmic mucous membrane being distinctly visible. The voice was only rough in tone. The following morning there was a slight, watery discharge from the left nostril, but no membrane was to be seen upon careful examination until the next day, when a membrane similar in character and situation to that which occupied the right nostril two days previously, was plainly visible, and as on the first visit a small portion of it was removed and sent to Dr. Johnston for examination. Twenty-four hours later, curiously enough, this nostril which had contained membrane, now only had a moderately thick, yellowish secretion, which was easily removed by means of an alkaline spray. The membrane in the left nostril was seen to have receded almost to the posterior third of the inferior meatus on the first day. Careful rhinoscopic examination, which the child readily permitted, revealed no membrane in the naso-pharynx, and inspection of the tonsils, fauces and pharynx, showed these parts to present nothing more than a hyperæmic condition of the mucous membrane. Five days from the onset of the trouble the mucous membrane of the nose and larynx was perfectly free from false membrane, the secretion from the nostrils being thick, yellowish coloured mucus.

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* Read before the Montreal Medico-Chirurgical Society, January, 1893.

The respiration, which at first was buccal, had now become nasal, and the voice increased in tone and clearness. The child's general condition was remarkable. She sat up in bed the greater part of the day and amused herself with her playthings. The pulse never reached 100, and the temperature never rose above 98.5. There was no loss of knee jerk and the urine was entirely free of albumen throughout the whole course of her illness.

Case II.—The second case concerns a boy of eight years old, whom I was asked to see by Dr. J. A. Macdonald. The features of this case differ from the foregoing only in one or two points: (1) The membrane made its appearance in the left nostril first. (2) The underlying mucous membrane did not bleed upon the removal of the false superimposed membrane. (3) Tended to recur after removal.

The general condition of the child's health did not seem to be effected by the existing trouble. There was no loss of knee jerk; no albumen in urine; no elevation of either pulse or temperature. There was no existing membrane in the naso- or buccal-pharynx. A striking feature was the absence of any glandular enlargement in both cases. Dr. Johnston reported Lœffler bacillus in both cases.

The chief interest in these cases is, I understand, in the bacteriological investigation, for cases of nasal diphtheria are frequently seen by us all, but the absence of all the classical symptoms may perhaps interest some. Here we found two children suffering from a dread disease which usually produces rather profound symptoms, and the fact that the characteristics of the membrane were wanting, no fetor present, no enlarged glands, no alteration in the pulse nor elevation of temperature, no nervous phenomena either attending or following the course of the disease, no reaction upon the general health of the children, made one hesitate about pronouncing them to be true diphtheria, but the presence of the Klebs-Lœffler bacillus in the one case, and of the development of an undoubted faucial diphtheria in another member of the second family, decided that we had to deal with a true specific disease. The first case, however, for the first forty-eight hours presented a difficulty in diagnosis between diphtheria and a disease only of late fully recognized, namely, fibrinous rhinitis, from the fact that this case, in its clinical aspect, corresponded to such a condition, and, moreover, it followed upon an infectious fever, namely, measles, in which, in the majority of reported cases of fibrinous rhinitis, it is especially found to follow, and only the demonstration of the existence of the Klebs-Lœffler bacillus enabled us to make a positive diagnosis.

BACTERIOLOGICAL EXAMINATION OF THE MEMBRANE—

BY DR. JOHNSTON.

In Case II the membrane, microscopically, showed fibrillar structure, but did not give the staining reaction of fibrin. By Weigert's stain, fibrin can be readily distinguished under the microscope. The fibrin filiments come out bright blue, and many bacteria, notably the diphtheritic bacillus, are also stained. In the present case the number of bacteria was very small, and the results were atypical.

Cultures from the exudation had an appearance not quite the same as that of the diphtheria bacilli, being coarser and somewhat yellowish. Microscopically, the bacilli in the cultures had exactly the appearance of the diphtheritic bacilli. I inoculated the conjunctivæ of two rabbits, having first wounded the membrane by scratching, but did not succeed in producing any diphtheritic exudation. On account of these negative results I thought it was not a case of diphtheria. I preserved the cultures, however, and some months afterwards, in working over some old cultures, I experimented with these and found they possessed the property of growing on serum in twenty-four hours, and, invisibly, on potatoes. This made me think they might after all be the true diphtheria bacilli. I injected some of the cultures subcutaneously into a guinea pig, and found it killed in a typical manner, so that after all we had to deal with true diphtheria. The rabbit is a more refractory animal than the guinea pig towards diphtherial virus, and I had at first probably a mixed culture, which afterwards became purified on being passed through serum. Thus we had a curious exudation which had not the ordinary characteristics of the diphtheritic exudation, either to the naked eye or to the microscope, where the patient was apparently not at all sick, and yet where we got finally positive proof that we had the genuine Lœffler bacillus to deal with.

In Case I, I received a small piece of the dried membrane about the size of a pin-head. I moistened this and made cultures in the usual way, and obtained a very abundant growth of colonies with all the general appearances of the diphteria bacillus.

To test their nature I inoculated a guinea pig in the usual manner, and the animal died within forty-eight hours with the typical infection. Here there is no doubt we had a case of anomalous exudation caused by the diphtheria bacillus.

In neither of these cases were there any diphtheritic paralysis. The children recovered perfectly.

Important studies on the ætiology of fibrinous rhinitis have appeared, one by Koplik, in the *New York Medical Journal*, August 27, 1892, and the other by Park, in the *New York Medical Record*, 1892. Both observers met with cases in which there was a membranous inflammation of the throat of an anomalous character; they varied greatly in severity, sometimes forming a mere film of exudation and at other times forming a thick fibrinous layer. Altogether ten such cases were observed where the diphtheria bacillus was found. They even found the diptheria bacillus in cases which presented no membrane at all—in cases of catarrhal sore throat, and in cases of what was apparently follicular tonsillitis. A. C. Abbott (*Medical News*, May 13th, 1893) has also described three mild cases of fibrinous rhinitis where the Lœffler bacilli were found. We, therefore, have certain anomalous inflammations of the mucous membrane of the throat and nose, which do not anatomically or clinically present the picture of diphtheria, but in which the diphtheria bacillus is present, and there is very little doubt that it is the causative agent of the condition.

There are some points that are interesting in connection with these cases. Why does diphtheritic inflammation sometimes run such an anomalous course? Is there any connection between the anomalous anatomical condition and the absence of fever, swelling of the glands, albumen in the urine, subsequent paralysis typical of the effects of the diphtheritic poison? We are only beginning to learn how this poison works. The anomalous condition was apparently not due to any weakness in the virus, but to some power which the patient has of resisting its action—a condition of partial immunity. It would be interesting in such cases to find experimentally whether the serum of such individuals possessed undue resisting powers to the bacilli compared with the serum of other people. An artificial immunity against diphtheria may be induced by inoculation with modified virus, or the injection of small quantities of poison into animals, and the serum of such animals inoculated into others gives protection. Whether there is another specific disease condition, fibrinous or pultaceous rhinitis (which latter is the French term applied to this anomalous condition), is a matter which is not yet clear. A number of cases have been now examined, and Abel claims that fibrinous rhinitis may be set up by the pneumococcus (the specific agent in pneumonia).—*Centralblatt Bakt.*, Dec. 28, 1892. It may be mentioned that the first of our cases (Case II) was recorded in the MONTREAL MEDICAL JOURNAL, September, 1891.

MISSED ABORTION.*

BY J. D. BALFOUR, M. D., LONDON.

CASE I.—This case occurred in the practice of Dr. Meek, London.

Mrs. H, aged 40; married 17 years; number of children 7 (two living and three dead); last confined seven years ago, child born prematurely; one miscarriage eight years ago at the fourth month; was operated on three years ago for lacerated cervix and perineum. Health good since operation, and menstruation regular every four weeks and normal.

On the 11th of December, 1891, sought medical advice to see if she were pregnant. She had been quite regular up to the first week in the previous November, when she last menstruated. On examination the uterus was found to be enlarged, and she was informed that she was probably pregnant.

Was not heard from again until first week in April, 1892, when she again applied for medical aid. She was suffering from pains in the back, bearing down, and had a slight flow of bloody fluid,—symptoms of threatened abortion. On examination os quite small, uterus large and soft, corresponding in size to four and half months pregnancy. Said she had felt life.

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* Read before the Canadian Medical Association, at Ottawa, September, 1892.

Rest in bed and fluid extract of viburnum stopped all pain, and she became quite well in a day or two.

Was not heard of now until August 19th last. She had been very well in the interim, except some slight pain occasionally and imagined that pregnancy was going on all right. Expected to be confined about August 13th.

On August 19th she had bearing down pains which she considered labour pains, and again sent for medical assistance. Examination p. v. showed os small and with no sign of dilating, uterus about same size, probably a little smaller, as when examined in April. There was no show. A diagnosis of missed abortion was arrived at, occurring in April. She was admitted to the London General Hospital, and on the morning of the 22nd of August, the patient under chloroform, the cervix was dilated with a steel dilator. The ovum forceps were then passed, the sac which contained a small cupful of dark, greenish coloured fluid, ruptured, and a softened fœtus of about 4 months growth removed in pieces.

The covering and placenta, as far as possible, was also removed, and the uterus then thoroughly curetted with a large moderately sharp spoon. The uterus was then washed out with a weak solution of corrosive sublimate, the cavity swabbed out with Churchill's iodine and a strip of iodoform gauze introduced for drainage.

Temperature normal till fourth day when gauze was expelled and removed. A douche of corrosive sublimate was now ordered, after which temperature ran up to 101 3-5.

On examination a piece of decomposing fœtal coverings was found and removed, and the uterus again washed out, with a permanganate solution, and iodine applied. Temperature now fell to normal and recovery went on without interruption.

Peculiar features:

1. Long (4½ months) retention of fœtus after death without any symptoms of importance.
2. Non-absorption of the liquor amnii.
3. Undilated os.
4. How, even after carefully curetting, portions of the coverings may be left in the uterus.

CASE II.—Mrs. McK., aged 34; married 12 years; had four children, two living and two dead; had no miscarriages. Admitted into London General Hospital November 28th, 1891; was weak and somewhat anæmic; had been troubled with rheumatism.

Confined on the evening of January 22nd, 1892. With the child was expelled a small dead fœtus about four inches long. It was squeezed into a thin parchment-like form, and resembled thick nut-brown paper in appearance.

It was perfectly formed and no doubt died in utero about the end of the fourth month. The woman could give no history of pain or trouble of any kind at or about that time.

The case was otherwise perfectly normal.

The patient left the hospital on February 5th.

A CASE OF OCCIPITAL MENINGOCELE.*

By KENNETH CAMERON, B.A., M.D.
Lecturer on Hygiene, University of Bishop's College.

Meningocele is a congenital hernia of the membranes of the brain through an opening in the skull, the protruding sac being filled with fluid, but containing no cerebral substance; the most frequent situation for it to occur is in the occipital region in the middle line. The following case is a typical illustration of this fortunately rare malformation.

On the evening of the first of November last I was called to see Mrs. A., in whom labour had just commenced. She was a primipara, a large, strongly built woman above the average height and weight. The course of pregnancy had been uneventful and had reached full term. The pains were so sharp and the pelvis so roomy that a rapid and easy delivery was expected, but after a little the pains became less frequent and less severe, until they finally ceased and did not commence again until next morning at 10 o'clock. The position was right occipito-anterior, and the head very soon began to bulge the perineum, where it remained, though the pains were severe and the expellant force great. The cause of the delay could not be determined, so after waiting an hour chloroform was administered and the forceps applied. Even with this assistance at first no advance was made, but suddenly the head was delivered and the cause of the obstruction found to be a tumour on the back of the child's neck. The child did not breathe for some time and not freely for over an hour. The mother's recovery was rapid and complete. The child was a well formed, well nourished female of about 7 pounds weight. On the back of the neck, just below the occipital protuberance was situated a large irregular, slightly lobulated, sessile swelling, the greatest circumference being around the base and measuring 8¾ inches, horizontal measurement 3¼ inches, longitudinal measurement 4½ inches. The occipito-frontal circumference of the head was 13¾ inches.

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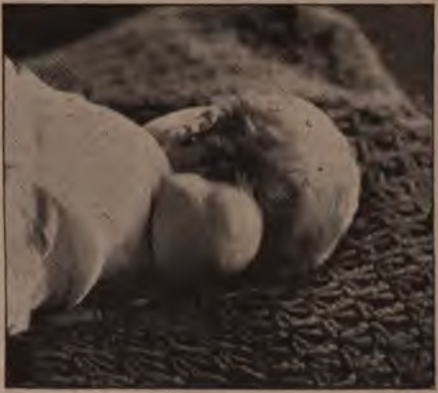
* Read before the Montreal Medico-Chirurgical Society, February 3, 1893.

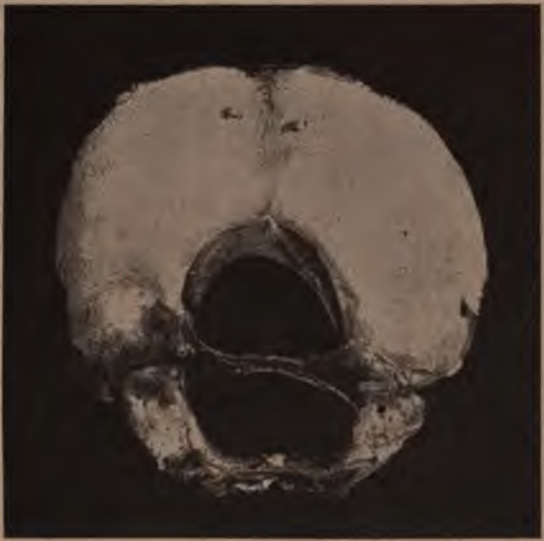


The skin over the upper segment was normal looking and covered with hair, but over the centre was very thin and translucent. The tumour was quite irreducible, no pulsation could be felt, but there was a marked increase in tension when the child cried, and when pressure was made the child ceased crying; no other symptoms were produced even by hard pressure; a distinct wave of fluctuation was felt, not only through the tumour itself, but between the anterior fontanelle and the tumour; there were no paralyses. In addition to this deformity there was a cleft palate, the fissure involving the soft and hard palates in the median line as far forward as the inter-maxillary bone, but no further; there was no hare-lip. In every other respect the child was perfectly formed; the bowels and kidneys acted well within twenty-four hours. The child being quite unable to suck, great difficulty was experienced in feeding it; the mother's milk, of which there was a plentiful supply, was carefully drawn off and administered with a spoon, but within a few days it became evident that digestion was imperfect, the milk passed more or less unchanged and the stools became green, but on the milk being peptonized they assumed a more normal appearance. Increase in the size of the tumour and marked increase in the tension was observed from day to day, the child became very fretful, crying and moaning, and sleeping but little. On November 10th, eight days after birth, assisted by Drs. Allan and Springle, I operated. An incision was made in the median line and the skin dissected down to the base. Three and a half ounces of clear, straw-coloured serous fluid were slowly removed through a trochar and the sac was then opened. It was formed by the distended membranes and contained no cerebral substance. The opening, which was separated from the foramen magnum by only a thin band of membrane, was $\frac{7}{8}$ of an inch in diameter and almost circular, and through it could be seen the medulla and upper part of the cord.

The superabundant membranes and skin were cut off, the edges of the sac being brought together by a purse-string silk suture, and the skin wound united by buried silk sutures and enveloped in an iodoform and sublimated gauze dressing. The wound healed by primary union, the dressings having been changed on the second and tenth days.

The condition of the child was greatly improved after the operation; she slept well, cried but little, took her food and digested it well, and gained in weight. This improved condition lasted for two weeks, when an acute gastritis was set up, the milk was rejected and the stools again became green, and in spite of all treatment the child rapidly sank, wasted and died on December 3rd, just thirty-three days after birth. As the child failed it was evident that the hydrocephalus was rapidly increasing. At no time, however, were there symptoms pointing to cerebral irritation, except during the last two days, when slight twitching of the mouth and eyelids was observed.

A post-mortem of the head only was obtained. On opening the skull a little over an ounce of clear serous fluid escaped, the membranes and surface of the brain were pale and showed no signs of inflammatory action. Considerable thickening was observed about the site of the incision which had completely united. The lateral ventricles were considerably dilated, but nothing abnormal observed about the fourth ventricle. The opening in the occipital bone is continuous with the foramen magnum, and extends through nearly half the diameter of the occipital portion of the bone; it measures one inch in its greatest breadth.



Hospital Reports.

MONTREAL GENERAL HOSPITAL.

REPORTS OF CASES IN DR. STEWART'S WARDS.—CASE OF MALARIA COMPLICATED BY PNEUMONIA.

(REPORTED BY C. J. MARTIN, M.D.)

M. M., aged 51, was admitted to Montreal General Hospital November 4, 1892, complaining of daily recurring chills and general weakness.

The illness had commenced in St. Paul, Minn., 12 days prior to admission (viz., October 23rd), at 1.30 p.m., when patient had a sudden and severe rigor lasting about one hour and attended with fever and great sweating. Patient had previously been in excellent health and engaged in his daily duties in connection with a travelling circus. Several of his friends, who were near St. Paul and who belonged to his band, were similarly affected at the time. From the onset of his illness patient had daily chills, each occurring about 1.30 p.m., and followed by hot and sweating stages.

On the ninth day of his illness he left St. Paul for Montreal, arriving November 4th at about 1 p.m. at the Montreal General Hospital, having had chills throughout his journey. Soon after entering another chill supervened, patient being much prostrated. Temperature 105½°, pulse 122, respiration 36.

Personal History—Indian, residing at Caughnawaga, where he had spent most of his life on a farm, while in winter he frequently visited the lumber shanties on the Ottawa River. A few months previous to his illness patient went to St. Paul, remaining in the city until his return here November 1st. During all this time he visited no other city, nor is there any history of his ever having been in another malarial district. Never had malaria before. Family history negative.

General Condition on Admission—Much emaciated and anæmic and in great prostration ; bony points prominent. Skin dry and hot ; conjunctivæ subicteroid. Pupils reacting normally. Suffering pain about abdomen, but no tenderness anywhere. Digestive system—Tongue thickly coated with dirty greyish fur, indented by the teeth, and sordes about lips, teeth and gums; no herpes; appetite very poor; no vomiting nor gastric discomfort, constipation for four days previous to admission. Abdomen relaxed; liver dullness normal, edge could be felt immediately below costal margin; no splenic enlargement discernible. Respiratory system—Sputum consisted of thick muco-pus; no cough. Respiration 24, costo-abdominal, expansion of chest good, chest well developed. Tactile fremitus normally present. Percussion revealed no dullness nor other abnormal auscultation. Breath sounds harsh in both infra-claviculer regions, where also a few moist rales were heard; elsewhere no adventitious sounds; V. resonance normal. Circulatory system—Arteries sclerosed, but otherwise no evidence of disease.

Blood Examination—Showed presence of plasmodium malariæ in various forms, especially the amæboid and free pigmented varieties.

Urine, immediately after chill, high colored and very dark reddish, thin in deposit; 1024, acid, no albumen nor sugar, no trace of urobilin, no casts; urea 12 grs. to ℥fl. Quantity during first 24 hours diminished.

Diary of Treatment—Rest in bed; fluid diet. During night of November 4th patient slept well, and on morning of 5th temperature decreased to 98°. Temperature remained normal up to 1.45 p.m , when without any other symptoms it rose to 101 3-5, and at 2 p.m. patient had another chill, temperature at 2.30 being 104 3-5. Blood was again examined and amæboid variety of plasmodium found.

Quinine was administered the same evening for the first time, 30 grs. in all being given in divided doses up to 10.30 a.m. of 6th. Patient, nevertheless, had another chill at 1.30, temperature at 2 30 rising to 105 3-5. No more quinine was given during the succeeding 24 hours and patient passed the day of the 7th without any chill, temperature never rising above 100°. For the next three days quinine was administered in doses of 10 grs. three times daily, according to the usual methods, and patient had no more chills.

On the day of the 11th at 8 a.m. temperature was 101½. Lungs examined and found negative, respiration 20, pulse 88. Two days later slight dulness was discovered over the base of the right lung, with crepitant rales and diminished breath sounds. Tonic and stimulating treatment was at once administered. On following day patient seemed greatly weakened, had severe dyspnœa and expectorated a large quantity of thick muco-pus tinged with blood. Examination of lungs showed increased area of dulness with blowing breathing at angle of scapula and large crepitant rales.

Slight jaundice was now noticed for the first time, the urine containing bile and the stool being light colored. Two days later patient developed a most intense jaundice, while in every way his condition became much more grave. Patient coughed up copious thick greyish purulent sputum. Examination for bacilli negative. Respiration 38, pulse 124, temperature 99 2-5°. Right lung showed signs of consolidation up to the spine of scapula, with marked blowing breathing and crepitation. Vocal resonance and fremitus greatly increased.

In front increased vocal resonance in right infraclavicular region, with distant blowing breathing and cogwheel respiration in the region below.

Examination of blood revealed no plasmodia, but marked leucocytosis.

Urine, dark golden yellow, 1022, acid, trace of albumen, numerous bile-stained casts, no blood ; ℥ LX of urine in past 24 hours ; urea 12 grs. to ʒfl.

For past three days enemata were given, patient being unable to retain any food on his stomach.

From this time onward patient's condition became more and more grave, till on November 18th patient died at noon.

Only a partial autopsy could be obtained. The right lung was found in a stage of grey hepatization, the organs all bile-stained, the spleen not enlarged.

Reviews and Notices of Books.

Transactions of the American Ophthalmological Society—Twenty-eighth Annual Meeting, held at New London. Hartford: Published by the Society; 212 pp. 1892.

The proceedings of this Society for 1892 contain much interesting matter and supply plenty of food for thought.

Kollock, of Charleston, has a paper on the eye of the negro and its pathological status. He finds myopia, covergent squint and trachoma rare; xerosis common. On the other hand refractive errors, especially myopia, are common among mulattoes. The eye of the negro is retrograding from three causes, civilization, syphilis, education.

In the course of the debate on this paper, Burnet said that syphilis in the negro ran on rapidly to suppuration of the glands and hence not so much of the virus is retained as among whites.

Bull reports five cases of intracranial lesions with defective visions and the autopsies. The first case was one of pachymeningitis of convexity of brain and basal endarteritis. The patient, a woman of fifty, had a severe mental shock, followed by convulsions, subsequently severe neurasthenia lasting for months. Profuse menorrhagia came on; night blindness appeared, with increasing loss of vision. Subjective and objective central scotoma for form and colour. Headaches now occurred, severe boring at vertex, but later became duller and occipital in position. The other eye began to fail, while the first eye developed neuroretinitis, which ran on to atrophy. Unilateral convulsions and transient amblyopia in the second eye ensued, and finally general convulsions, ending in death.

As to cause and effect, Bull thinks that the endarteritis existed before the mental shock, and the latter hastened the progress of the arterial degeneration and indirectly the pachymeningitis. The neuroretinitis was due to the continued loss of blood.

The night blindness as the first symptom of loss of vision is unusual, as there was no extensive retinal lesion of fundus and none at all of periphery.

The second case was one of sarcoma of the chiasma and optic nerve in a man of 24. Symptoms were headaches, at first frontal, later of whole head. Six months later twitching of arms and face and occasional vertigo. Only one convulsion occurred. Vision failed, discs became hyperæmic, and later atrophic. Coma supervened and death followed.

In addition to the tumour, the skull was thickened over the left frontal parietal suture, and the dura was adherent to it.

The third case was a man aged 37 years, with sarcoma of left occipital lobe. Symptoms, right hemianopsia and complete anosmia. Post-mortem, in addition to the tumour, atrophy of olfactory lobes and nerves was found.

The fourth case was a woman 72 years old with Thrombosis of middle cerebral artery and recent clot in the middle cerebral lobe and sarcoma of the right optic tract. Symptoms—Two years before death, suddenly blind in left eye, mental confusion, numbness right arm and leg, gradually improved but left hemianopsia remained. Headaches severe a year before this attack, after the attack slight ptosis of both upper lids set in; no diplopia; speech thick and slow; tongue pointed to left; partial right facial paralysis; some opacities lenses; no other eye symptoms.

Patient had aortic valvular disease obstructive murmur and hypertrophy of heart. Twenty months later became suddenly comatose and died.

The fifth case was a man aged 35, with gliosarcoma of cerebellum. Symptoms: headache, general in extent; occasional vertigo; paralysis of both external recti; paralysis of sensation of left side of mouth, pharynx, tongue and lips.

Dr. S. O. Richey read an article on the prime factor of glaucoma being constitutional. He holds that glaucoma is mainly a disease of increased filtration or secretion,—that behind this there must be a constitutional factor, and the uric acid diathesis fills the bill,—true gout corresponding to acute glaucoma and rheumatic gout to chronic simple glaucoma: "The clinical history of the seizure of acute gout and acute "glaucoma, and the anatomical peculiarity of the regions pre- "sent a picture of great mimicry." Chronic glaucoma is, he holds, a neurosis, "a progressive atrophy, the feature being "inflammation with deficient power, varied by periods of apparent rest."

By correcting and controlling individual habits, especially in the character and amount of food taken, more will be done to preserve vision than by operation. The neurosis is favoured by the production of toxic substances in the bowels, due to improper feeding.

Dr. Holt reports a case of orbital cellulitis spreading to temporal region, thence to neck and finally to the brain, causing death.

Dr. Sutphen reports one successful case of cerebral puncture for detached retina, and another case improved.

Dr. Harlan publishes some interesting statistics of the direction of the principal meridians in binocular astigmatism. Out of 1,200 cases, 70.14 per cent. were symmetrical, 29.86 per cent. were asymmetrical.

Dr. Swan Burnett, in an article on the general form of human cornea, shows: 1st. The cornea diminishes in curvature from the centre to the periphery. 2nd. The diminution is more rapid on the nasal than the temporal side.

Dr. Theobald, removed a piece of steel from vitreous chamber on the eleventh day, with the electro-magnet. The vision retained was nearly normal.

Dr. Buller communicated a case of foreign body imbedded in retina for some time, later on apparently breaking loose (at any rate disappearing) a diffuse hyalitis setting in.

Dr. Oliver has a very interesting paper on the clinical value of repeated careful correction of manifest refractive errors in plastic iritis. In his own words: "In nearly every case of iritis, especially plastic, there is a period, even after full pupillary dilatation has been seemingly artificially obtained, during which, owing to persistence of inflammatory changes in the uveal tract, as so expressed by clinical evidences of ciliary spasm, &c., graduated instillations of mydriatics should be employed. The duration and gravity of this period being most accurately measured and determined by the systematic and repeated estimation of the varying errors of refraction.

Die Lehre von den Naseneiterungen mit besonderer Rucksicht auf die Erkraukungen des Sieb—und Keilbeins und deren Chirurgische behandlung—

Mit 5 abbildungen. Von Dr. LUDWIG GRUENWALD, in München. 163 pp. München und Leipzic: verlag von I. F. Lehmann. 1893.

This work of Dr. Ludwig Grünwald, of Munich, is an elaborate treatise on rhinorrhœa, acute and chronic. A very small part of the book is devoted to the nose proper, the major part consisting of a series of articles on pus formation in the adjoining cavities. A valuable feature of the work is the liberal supply of illustrative cases which have from time to time come under Dr. Grünwald's observation.

For diagnostic purposes in chronic rhinorrhœa the author follows the method of repeated puncture with the sharp needle or sound in various directions, to discover, if possible, carious bone.

In Case XV, p. 44, a patient suffering from ozena, he thus discovered caries of ethmoid, sphenoid and superior maxilla. Treatment by free opening and chiselling resulted in a cure of the odour in three weeks and diminution of the secretion. He explains the asthenopia so frequently complained of in disease of the nose and cavities about it thus: The suppurative process occurring immediately under the base of the skull near, and sometimes immediately bordering on the optic nerve, sets up in the neighbourhood of this nerve an irritable hyperæmic condition. Every effort or strain which brings more blood to the brain must increase this irritable condition. Especially must every effort on the part of the eyes, preferably accommodation, supply it more richly with blood, and in this condition set up a feeling of discomfort in the organ, which can only be overcome by withdrawing the attenion from the object looked at, this being caused by an unconscious opposition of the will to the fixation of the object. The object is uncertain and is observed perhaps with oscillating visual axes, perhaps with purposely false action of accommodation, and hence appears to the psychical, if not the physical vision, indistinct.

The surgical treatment is dealt with at some length and thoroughly, but the especial value of the book lies in the record of cases. Although mainly intended for the specialist, we can strongly recommend its perusal by the general practitioner.

Naphey's Modern Therapeutics, Medical and Surgical, including the Diseases of Women and Children. A compendium of recent formulæ and therapeutical directions from the practice of eminent contemporary physicians, American and foreign. Ninth edition, revised and enlarged. Vol. II, general surgery, gynæcology and obstetrics. By ALLEN J. SMITH, M. D., Professor of Pathology, University of Texas, Galveston; late Assistant Demonstrator of Morbid Anatomy and Pathological Histology, and Lecturer on Urinology, University of Pennsylvania, and J. AUBREY DAVIS, M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Assistant Physician to Home for Crippled Children, Philadelphia. Philadelphia: P. Blakiston, Son & Co. 1893.

The ninth edition of this valuable work has been carefully revised and brought up to date. The present volume includes surgical, gynæcological and obstetrical therapeutics. A large amount of new material has been added to keep pace with the progress made, especially in surgery and gynæcology. The whole is most carefully indexed, there being a separate index for authors quoted, another for remedies and remedial measures, and a third for diseases. This adds much to the value of the work as a book of reference, and as such we cordially recommend it.

A Manual of Clinical Ophthalmology. By HOWARD F. HANSELL, M.D., and JAMES H. BELL, M.D., with 120 illustrations, pp. 231. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1892.

Drs. Hansell and Bell have added another to the large list of small works on the eye already published.

Under a certain size it is impossible to produce a clear and comprehensible hand-book on the eye; condensation beyond this point tends to scamping and confusion.

The authors, we feel, have come dangerously near this limit, for as the work is meant for students and general practitioners and not for specialists, it stands to reason that nothing in the way of previous knowledge of eye diseases should be premised; every point should be made clear.

This certainly is not the case with this little book, and is most glaringly marked in the description of the treatment of sympathetic ophthalmia, *i.e.*, Treatment: "Enucleation of the eye inducing irritation in the first stage; local remedies and mercurialization in the second stage, with enucleation of infecting eye if hopelessly blind." Again, in referring to coloboma iridis, the usual position or cause is not mentioned, two lines sufficing for the subject. The orbit with its diseases, of such vital importance, is treated of in a page and a half. In embolism of retinal artery no treatment is said to be of any avail. (?) In the article on retinoscopy the plane mirror is used, and we notice that duboisine is the favorite mydriatic. We are glad to observe that Maddon's valuable cylinder test for heterophoria is mentioned.

On page 195 a solution of 1-5000 bicloride of mercury is to be used for disinfecting instruments. (?) We must say we would be sorry to try any of our delicate cutting instruments in this way. The illustrations, which are numerous, are all borrowed.

Diseases of the Eye—A Practical Treatise for Students of Ophthalmology. By GEORGE A. BERRY, M.B., F.R.C.S.; Ophthalmic Surgeon Edinburgh Royal Infirmary; Lecturer on Ophthalmology Royal College of Surgeons, etc. Second edition, revised and enlarged; pp. 727, 197 illustrations. Philadelphia: Lea Brothers & Co. 1893.

It is with great pleasure we hail the appearance of a second edition of the able text-book on diseases of the eye by this talented ophthalmic surgeon. A great deal of the matter has been re-written, much new matter added, and the few defects of the first edition rectified. It now stands out as one of the best, if not the best, text-book on the subject in the English language. The opening chapter on the examination of the eye has been greatly extended in this edition, and all the latest methods taken into consideration. A new chapter on the theory of the ophthalmoscope is added and many new illustrations, mostly colored, inserted.

In the chapter on diseases of the lachrymal passage the author expresses himself as averse to the manual dilation of the duct, practised by so many surgeons. Under Conjunctivitis we find a description of hyperplastic subconjunctivitis and of electric ophthalmia.

Dr. Berry favours pyoktanin in cases of dendriform keratitis after scraping the rills. He considers neuroparalytic keratitis to be most likely mycotic and not neurotrophic.

The article on cataract is lengthy and exhaustive. There is an exlaborate description of Magnus' experiments in the artificial production of cataract by feeding rabbits on naphthaline and the deduction therefrom obtained. The cataract in adults is due to circulatory disturbance in the nutrient fluid of the lens, or less frequently to alteration in the chemical constitution of the nutrient fluid. Mention is made of glassblowers cataract, which is generally left-sided, and probably caused by exposure to the actinic rays in the work.

The articles on optic neuritis from brain lesions, on glaucoma and on detached retina are well worked out in full detail. The rarity of neuritis in cerebral abscess is touched on. An entire chapter is devoted to the subject of sympathetic ophthalmia, Dr. Berry favoring the theory of transmission of the irritant along the optic nerve.

The concluding part of the book is devoted to the operations on the eye, which are described *in extenso.* As to the book itself, the matter is good, the English is good, and the printing is good. It is a valuable, trustworthy aid to the specialist as well as to the general practitioner and student.

Scab Healing and Its Application in General Surgery. By J. Delpratt Harris, M.R.C.S., Eng.; Surgeon Devon and Exeter Hospital; Senior Surgeon Exeter Lying-in Charity, etc. London: H. K. Lewis. 1893.

In a monograph of twenty-eight pages the author sets forth the advantages of a perfectly dry dressing to wounds, in order to better imitate nature's method of obtaining union under a scab. For this purpose he uses sawdust of pine, cedar or eucalyptus. He recommends horse hair as a material for drains, when such are required, but does not mention whether any special method of preparation is needed to render the horse hair suitable for this purpose. As the author himself states, this method of dressing would be most useful in countries where it is difficult to obtain a supply of the ordinary antiseptic dressings, as sawdust can readily be procured in any part of the world.

Various Forms of Hysterical or Functional Paralysis.

By H. CHARLTON BASTIAN, M.A., M.D., F.R.S.; Fellow of the Royal College of Physicians, London; President of the Neurological Society of London; Professor of the Principles and Practice of Medicine and of Clinical Medicine in University College, London; Physician to University College Hospital, and to the National Hospital for the Paralysed and Epileptic. London: H. K. Lewis, 136 Gower street. 1893.

One of the most notable contributions to neurological literature for several years. We have had any number of works on the nervous system recently, but, with few exceptions, they are the productions of men who have nothing new or valuable to tell us. Dr. Bastian furnishes us with a volume full of thoughtful suggestions. The work, quite irrespective of its merits as a contribution to functional paralysis, is well worthy of and will well repay perusal.

Formulaire Des Medicaments Nouveaux et Des Medications Nouvelles.

Par BOCQUILLON-LIMOUSIN, avec une introduction par HENRI HUCHARD, Médecin de l'Hôpital Bichat. Quatrième édition. Revuée, corrigée et augmentée. Paris: Librairie I. B. Baillière et Fils. 1893.

This small work contains an excellent *resume* of the pharmacology, therapeutics, doses and mode of administration of the important drugs at present employed. The very numerous recent introductions into the materia medica receive due attention. The volume will prove useful to all practising physicians.

The Modern Antipyretics; Their Action in Health and Disease. By ISAAC OTT, M.D., former Lecturer on Experimental Physiology, University of Pennsylvania. Second edition, revised and enlarged; pp. 124. Easton, Pa.: E. D. Vogel. 1892.

When the first edition of this valuable brochure appeared we had pleasure in writing in the highest terms as to its value. The second edition is thoroughly revised and contains references to the most recent literature.

Mineral Springs and Health Resorts of California, with a Complete Chemical Analysis of Every Important Mineral Water in the World. A prize essay by WINSLOW ANDERSON, M.D., M.R.C.P. Lond.; M.R.C.S. Eng., etc.; joint editor and publisher of the *Pacific Medical Journal.* San Francisco: The Bancroft Company.

On this Continent balneotherapy has not as yet received the attention which it has in Europe, although springs of mineral waters having decided therapeutic actions are to be found in all parts. This being the case, we owe a debt of gratitude to the author for giving us this book, which contains, besides a list of the mineral springs and health resorts of California, as indicated in the title, much useful information about the medicinal use and therapeutic actions of the waters, uses of baths, mud baths, etc.

Appended is a list of the principal springs of Europe, Canada and the various States in the Union, with a chemical analysis of each. Information is also given regarding the history, climate, rainfall and range of temperature in California, as well as the best routes by which to reach the various health resorts.

—Twenty three states, one territory, and the Cherokee and Choctaw nations are protected against quackery by medical examining boards.—*Jour. A. M. A.*

—Osler (*Amer. Jour. Med. Sc*, Jan., '93) says that tuberculosis is a not uncommon cause of pericarditis, and is usually due to infection of the membrane from caseating mediastinal lymph glands.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, January 20th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Band of Adhesion between the Cervix Uteri and the Vagina.—Dr. J. A. **SPRINGLE** read the report of a case which appears on page 888.

Dr. **SMITH** has had many cases, in the Montreal Dispensary, of women between 40 and 60 years of age suffering from cicatricial bands between the cervix and the vagina. Such adhesions are not seen so frequently in younger women, more gentleness being now employed in obstetric practice than formerly; or, perhaps, it may be that in the old days the head was left much longer pressing on the cervix and vagina, causing destruction of tissue. Pozzi in his new work on Gynæcology devotes several pages to these bands. They may interfere with labour so much in some cases, that it is considered necessary to induce premature delivery.

Anomalous Cases of Diphtheria.—Dr. H. S. **BIRKETT** read a paper on this subject, which appears on page 889, and Dr. **JOHNSTON** related the results of the bacteriological examination, page 892.

DISCUSSION.

Dr. **PROUDFOOT** said that he has often had cases where it was difficult to decide whether or not the disease was diphtheria. He had a case in his practice very similar to Dr. Birkett's. A boy ten years of age was treated for a purulent inflammation of the ear following measles; a membrane formed in the nose and was removed, but was not followed by any other. It only occurred on one side. The child did not complain of any unusual symptoms, except the general malaise following measles, from which he was recovering very well.

Dr. **McCONNELL** said that these cases form another instance illustrating the great advantage of the bacteriological methods of diagnosis. He urged the surgeons to bear in mind the utility of serum, and to save it for bacteriological investigation. In many cases we have no other means of diagnosis.

In the present cases he thought that if Dr Birkett had seen them a little earlier he might have observed some slight elevation of temperature. He had seen such cases—little fever the first day, and the next day the fever is completely down. It seems rather odd to have the diphtheria bacilli growing, without at least producing some poison.

Dr. **Major** thought that anomaly was the rule in diphtheria; at all events, you cannot lay down any hard and fast rules as to its course, local and constitutional. Secondary nasal diphtheria is one of the most fatal forms; primary nasal diphtheria, on the other hand, is not only mildly contagious, but the septic influence is almost altogether wanting. When primary it confines itself principally to the nasal passages, seldom extending into the naso-pharynx, still more rarely into the larynx, and glandular enlargement is the exception. In most cases the membrane is confined to one side of the nose exclusively, reforming as fast as it could be developed after removal, the health of the parts influencing its renewal. He cited the case of a child from whom he had previously removed a tonsil, the cicatrical tissue was free from exudation, while every place around it was covered. It would seem that the degree, or an excess, of the blood supply in the part largely regulated the region where the membrane may develop, and also the development of the disease in the individual. In regard to the Klebs-Löffler bacillus, the clinicians should not throw themselves into the arms of the bacteriologists. Who is going to correct the bacteriologists, for all know how liable they are to be mistaken at times? He thought that it would be a great mistake to neglect good classical symptoms in favour of any theory that might be arrived at by a bacteriological examination.

Dr. **Foley** asked whether erythematous rashes were common in diphtheria. He had heard of such a case the other day, where a profuse desquamation of the neck followed diphtheria.

Dr **Mills** thought that the most important conclusion from Dr. Johnson's researches is to confirm the views held as to the infection of diphtheria. The poison apparently must have been formed but not absorbed. It seems that the difference in the resisting powers of certain individuals to infectious disease does not lie altogether in the serum. Pathologists will have to abandon the narrow ground of the serum alone and take in the tissue fluids in general. The life of the cell is expressed in its fluids. That is what I think this immunity question is going to work out to, to a certainty. The question of absorption is very interesting. The scars referred to are especially interesting. I think the disease did not attack these parts, not on account of their lack of vascularity, but on account of their deficient absorptive power.

Dr. **DeCow** did not think minutiæ in diagnosis of much importance to the general practitioner, the important thing being to adopt isolation and get a' your treatment at once.

Dr. **Birkett**, in answer to Dr. Foley, said that the occurrence of rashes in diphtheria, especially in the more malignant forms, is well recognised. In both of these cases the membrane was not limited to one nostril, it invaded both nostrils. They differed in this, that in one case the membrane recurred on removal, in the other it did not. In regard to the remark of Dr. DeCow, he said that these cases were treated as diphtheria before the report of the bacteriologist had been received.

Dr. **Major** referred to a case reported by him some four years ago. He at first regarded it as a chronic membranous nasal catarrh. The young lady suffered from complete obstruction of both sides of the nose, but rhinoscopic examination showed that it did not at all enter into the posterior nares; there was no constitutional disturbance, no enlargement of glands; she had not been exposed to contagion so far as known, no case being in the neighbourhood. She was living at the time in the Young Womens' Christian Association, where there were twenty or thirty other people in the house. At that time the knowledge of the condition was very vague and the examination did not yield any result. It was treated as a membranous nasal catarrh, and after trying various measures he found that the galvanic cautery was the only means that yielded any ready result. The treatment was carried out persistently daily for probably a couple of months. The case was reported to the Society, and before the paper was read a young lady occupying the same room as this patient was ill, had been attended and prescribed for as a case of tonsillitis.

In consultation he afterwards recognised it as a case of diphtheria, a bad form, with nasal and pharyngeal extension. Since then he has had no doubt in his mind that the case of chronic nasal catarrh was nothing more nor less than a case of chronic diphtheria, and that the second case was contracted from it. With regard to the erythema that a gentleman spoke of a moment ago, cases of that kind are sometimes apt to be confounded with scarlatina. He had had a case some time ago which he pronounced diphtheria after an inspection of the throat. A few days afterwards a scarlet rash developed, but two weeks later, general paralysis setting in, confirmed the diagnosis.

Report on Three Prostatic Tumours—Dr. ARMSTRONG exhibited three specimens of hypertrophied prostate which he had removed last summer, and read Dr. Adami's report on the microscopical examination (appeared in MONTREAL MEDICAL JOURNAL, March, page 647).

Dr. Armstrong continuing said that clinically these cases are very interesting. They occur as a group of cases for which at present the relief is not very satisfactory. From an operative point of view they are bad patients. They often come to us in such a condition of toxæmia, with advanced kidney disease and dilated genito-urinary tracts, that they are not able to resist the shock or hemorrhage. In the future it is believed that much better results will be obtained than at present.

Dr. JOHNSON wanted to know what was the rational explanation as to why the prostate enlarges. There is no special irritation, no apparent local causes, and what is remarkable it enlarges at a time when it is least used. We have all heard of atrophy from disuse, but hypertrophy from disuse seems to be implied in the case of enlarged prostate.

Dr. SMITH always takes an interest in the prostate gland, because he constantly thinks of the resemblance between it and the uterus. The structure of both organs is composed mainly of fibrous and muscular tisssue. The uterus also contracts under the same conditions which cause contractions of the prostate. It seemed to him that from Prof. Adami's description of the gland one can easily see why people get enlargement of the prostate, and even why they get it when they don't want it any more. Overuse of this muscular and fibrous tissue will cause hypertrophy. Every time the fibres of the prostate contract they increase in size, and when this has been going on for twenty or thirty years, they get to be a pretty good size. Fibrous tissue frequently occurs in the uterus as the result of an exudation from the walls of the uterine veins, due to some obstruction to the venous circulation in some of the large veins about the brim of the pelvis, and into which the uterine veins empty. When we have chronic constipation, with a loaded sigmoid flexure pressing directly on the common iliac veins as they pass over the brim of the pelvis, we have engorgement of all the subsidiary veins, an exudation of lymph, and the organization of the lymph into fibrous tissue. Obstruction to the venous circulation is the key-note to the causation of enlarged prostate; this obstruction may be due to chronic constipation, to the heart, or to the liver. For the last few years he has employed the fluid extract of ergot in the treatment of enlarged prostate, for the very reason that he has seen such good effects from this drug in the treatment of subinvolution, and he found it generally gave great relief. In one case a soft bougie could not be passed; after a few doses of this remedy the man could pass a good stream. In the stage when the enlargement is forming we are to keep the following points in view: Don't excite the gland too often; remove any obstruction to the venous circulation, and give ergot to cause the already hypertrophied muscle to contract.

Dr. **McGannon** believed that enlarged prostate is more often due to overloaded blood vessels than to overuse, and thought that such cases can be much benefited by proper treatment, even when the genito-urinary tract is involved.

Dr. **Mills** would not say anything on the subject but for the alarming views of Dr. Smith. He called attention to a kindred phenomena which may throw some light upon the subject. Bitches as they grow old are very liable to develop adenomatous tumours in the region of the mammary glands. Dr. Lafleur examined some of these and pronounced them adenomata, tending to be malignant. Dr. Adami is of the same opinion. Here, then, you have an overgrowth of the same kind of tissue with a tendency to become pathological, even malignant; both connected with the period of life when vitality is lowered. He was not prepared to pronounce a definite opinion, but he most emphatically repudiated Dr. Smith's ideas on the subject of the etiology of hypertrophied prostate.

The late Dr. R. Hugh Berwick—Dr. MILLS said: "I have a motion to make, and with the rest of you I regret that we have so often to make these motions. In the last few years they have come with painful frequency. I will therefore move, and Dr. Proudfoot will second, the following resolutions:

"*Resolved*—That this Society has heard with deep regret of the death of one of its members, Dr. Robert Hugh Berwick, who, though a young member of the profession, was one of the most promising, and one who had gained the respect of all with whom he had come in contact during his brief but successful career.

"*Resolved*—That a copy of this resolution be sent to the friends of the deceased, to the Dental Association of the Province of Quebec, and to the Press."

Stated Meeting, February 3rd, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

A. W. HALDIMAND, M. D., was elected a member.

Malignant Growth of Prostate and Base of Bladder.—Dr. ADAMI brought this case before the Society on account of the numerous points of interest that it presented, more especially on account of the long continued history of kidney and bladder disturbance, and the nature of this disturbance. Dr. Bell, in whose ward the patient was at the time of death, would furnish details of the history of the case. He would simply remark that the patient, T. R., aged 88 years, entered the General Hospital in June, 1892. complaining of renal symptoms, and was in consequence placed under the late Dr. Ross. Soon vesical disturbance became more prominent and he was transferred to the surgical wards. Here malignant tumour of the bladder was diagnosed: there was progressive emaciation ending in death upon January 20th, 1893.

Dr. ADAMI detailed the post mortem appearances. Leaving aside the condition of the urinary system, there were briefly senile degeneration of the various organs, hydrothorax and odema of the lungs. He exhibited the kidneys which were large. The left kidney weighed 180 grms., and presented an obstructive cyst occupying the lower extremity of the organ. On section both cortex and medulla were found to be narrowed and of pale colour. The right kidney was larger and more hydronephrotic, but was not weighed or cut into, since it was reserved attached to the ureter and bladder for museum purposes. The pelves were greatly distended, as were also the ureters along their entire course until the base of the bladder was reached, where they entered into a mass of new growth. The bladder was distended, its apex reaching to the level of a line joining the anterior superior iliac spines. It contained more than 350 c. c. of bloody urine, together with masses of blood clot. On the other hand, the pelves of the kidneys and the ureters were filled with clear, almost colourless urine. Upon emptying the bladder the source of the hemorrhage was made evident. From the base there projected into the cavity a large nodulated and very vascular growth, divisible into three irregular masses, of which the most prominent was in the median area and somewhat anterior. The organ was firmly impacted into the pelvis, the new growth implicating also the prostate and the tissues around the base of the bladder. The glands of the left inguinal region were enlarged and the seat of a growth which felt firm on section. Similar secondary growths affected the retroperitoneal glands, and along the course of the right common iliac artery, near to its origin from the aorta, were two enlarged glands of the same nature.

Microscopical examination of this new growth yielded results of not a little interest. Portions removed from the masses projecting into the bladder presented an appearance which could not be distinguished from what is usually recognised as a form of alveolar sarcoma; that is to say, that with the low power nothing could be seen but a collection of round or slight oval cells of fair size, and towards the surface of the growth these could be seen to be infiltrating the muscle fibres of the bladder wall, or what remained of them.

With a higher power these cells could be seen to possess an alveolar arrangement. A peculiarly delicate stroma surrounded masses of these cells, forming a series of rounded alveoli, and in this surrounding stroma ran fine vessels of an embryonic type. Where the tissue of the sections had not been loosened in the process of preparation this arrangement was in parts unrecognisable—the growth was undistinguishable from a true sarcoma.

A study of the prostatic portion of the growth and of intermediate areas revealed the true nature of the growth. In the anterior region of the prostate there was still present remains of the prostatic tissue. The tubules and their surrounding tissues could be seen presenting a typical arrangement, but with this some dilatation of the lumina and hypertrophy of the stroma. Sections which showed these showed, however, other gland follicles which were becoming enlarged, and the epithelium here was undergoing proliferation, so as completely to occlude the lumen. The next stage to be made out consisted of what seemed to be these modified masses of glandular epithelium giving off finger-like collections of cells extending into the spaces of the surrounding tissue, and a little further back the condition of the modified prostate was that of a typical scirrhous cancer. Passing now towards the base of the bladder the cell masses become larger, the individual cells less compressed, the intervening fibrous stroma more and more scanty, and thus the passage could be made out from the scirrhous condition through that of medullary cancer to the first described condition which, as has been stated, would undoubtedly, without further study, be taken by most observers for an excellent example of one form of alveolar sarcoma. The alveolar sarcomata form so unsatisfactory a group of neoplasms, the descriptions of the various forms given by different writers are so divergent that it is worth while to record this case, showing as it does the necessity of a careful study of all portions of a growth presenting the appearance of what might reasonably be considered the true alveolar sarcoma of some authorities.

This difference in the appearance of the various parts of the tumour harmonises well with the clinical history of the case. Evidently the disease started in the prostate, and here it had been of very slow growth. The firm fibrous nature of the neoplasm points to this, and it is of special interest to note that, according to the patient's statement, the enlarged glands in the left inguinal region had been present and noticed by him for quite two years. There was a history of prostatic disturbance for some considerable period anterior to this, and the interesting question is raised as to whether the carcinomatous condition had been preceded by hypertrophy of the organ. This question, it is true, cannot be answered with certainty. It might be considered that the enlargement of the follicles in the anterior region of the organ that had not as yet undergone atypical epithelial proliferation, and the increase of stroma here is an indication that this had been the case; but the point will not bear having any great stress laid upon it. Evidently also, from its appearance, the vesical portion of the growth was of rapid development, the marked want of fibrous inter-alveolar substance points to this, and here again we have the history of relatively recent vesical symptoms. It would seem as though the neoplasm had extended under the base of the bladder (externally), and so brought about obstruction of the ureters before the wall of the viscus itself had been invaded. The firmer nature of the growth in the former region is in support of this opinion.

The fact that the inguinal glands of the left side were implicated is worthy of note, not only, as has been stated, because of the early period at which they were affected, but also because their implication would seem to indicate a back flow of lymph. This, however, is in consonance with numerous other observations tending to show that lymph may flow in either direction, or to place the matter otherwise, that when one channel becomes obstructed a collateral if round-about channel is employed.

Dr. Bell had little to add to the clinical history of the case given by Dr. Adami. There could in this case be little difficulty of diagnosis when he saw the patient. From the extensive nature of the disease in the bladder, from the secondary deposits in the glands, from the man's advanced age and approaching death from senility, this was not at all a case for operation, and having satisfied his mind upon that point he simply waited, knowing that it would not be long before the specimens would be passing through Dr. Adami's hands. With regard to the history of the progress of the disease, having only once investigated the case he could not be very clear, but this he could affirm, that the patient had manifested symptoms referable to the prostate for five years, but had only been seriously ill for a twelve-month. The growth in the groin had been present for two years.

Dr. **Smith** was under the impression that the lymph always flowed from the urethra towards the inguinal glands; he was certain such was the case so far as the penile and membranous portions of the urethra were concerned, and thought it applied to the prostate portions as well.

Dr. **Adami** pointed out, in reply to Dr. Smith, that here was not so much a question of the urethra and its lymph supply as of the prostate. He thought that it was generally held that the lymph about the neck of the bladder passed to the retroperitoneal glands. Here the prostate would seem to have been primarily affected; its lymphatics pass to a gland in the lateral true ligament of the bladder.

A Case of Occipital Meningocele—Dr. **Kenneth Cameron** read the report of this case, which appears on page 896.

Treatment of Alcoholism by Hypodermic Injections of Nitrate of Strychnia—Dr. **McConnell** read a paper on this subject as follows:—

In *Merck's Bulletin* for August, 1891, a brief notice of Dr. Portugalow's experience with the nitrate of strychnine in Dipsomania is given. He claimed to have cured 455 cases, and asserts that he knows of reliable and specific remedies for two affections only: strychnine for the various forms of alcoholism, and quinine for malarial fever. He used a solution of six centigrammes in fifteen grammes of distilled water, giving from one-quarter to one-half gramme hypodermically once or twice daily, ten to sixteen injections completing the treatment. Similar results were obtained by Dr. W. N. Jergolski, and others, in Russia, Germany and Italy.

That strychnine, cocaine, atropine, capscium, cinchona, and other nerve tonics had been employed with advantage in alcoholism is a fact generally known, but that such brilliant results could be obtained by such a well-known remedy as strychnine, properly administered, filled a gap in the therapeutics of a disease with which, hitherto, medication had mostly been fruitless, and which could only be regarded and hailed with grateful appreciation by the general practitioner who could hitherto do so little for this,—by no means small,—class of afflicted humanity.

I have treated during the last 15 months some 30 cases, 25 of whom received the full course of injections; the results will, I think, demonstrate what benefit we can obtain from it in this form of narcomania. Due attention was paid in each case to the associated derangements and the constitutional peculiarities. The patients all came to the office for treatment, and although recommended to abstain from further drinking were allowed to take liquor if they desired it. The dose given subcutaneously varied from one-thirtieth to one-sixth grain twice daily for ten days, then once daily for ten days, the highest dose being reached about the third or fourth day and continued to the close of the treatment. This being nearly in accordance with Spitzka's experiments, that to maintain its action the doses of strychine must be in the beginning increased, and later the interval increased and the doses lessened. The border line of tolerance was reached in most cases when one gramme was used of a solution containing 12 centigrammes strych. nitrat. to 15 grammes water, that is about two-fifteenth grain. Internally cinchona, peroxide hydrogen and capsicum were frequently prescribed in combination. When bromide of sodium failed to procure sleep, paraldehyde always succeeded. In the later cases strychnine in doses of one-twentieth grain, with elixir of phosphate and calisaya (Wyeth's) was ordered to be taken once or twice daily for four or five weeks after ceasing the injections.

The following brief reports of each case are condensed from the notes taken in detail during the progress of the treatment.

Two solutions were used, one containing six centigrammes to fifteen grammes water and in the later cases one of double the strength, equal to two grs. to the half ounce. The weaker solution was used in all cases unless where the stronger is mentioned.

CASE I.—November 10, 1891, insurance agent aged 50, has used alcohol since 12 years of age and to great excess since 20, and more or less continually during the last four years; marked family history of alcoholism. Patient is small in stature, emaciated, tongue thickly coated, tremulous, has had very little sleep for a week. Gave a purgative and potassium bromide.

On the 11th began the injections, giving ½ gm. twice daily. He states that after a prolonged spree, during the first, second and third weeks of abstinence he suffers from cramps in the limbs, and for four years has had night sweats; had no cramps after first injection and claimed to have no desire for liquor after the first day. At the end of the first week of treatment he showed remarkable improvement in every respect; had a ravenous appetite, slept well, no depression, and very sanguine as to the virtue of the treatment. During the second week had one injection daily, when the treatment ceased. He then claimed to enjoy as good health as ever before. He reported from time to time the entire freedom from desire for liquor, and remained so for eleven months, during which time he had no regular work. Having got a situation, after his first pay he ventured a glass of liquor, when the ardent crave was rekindled and a prolonged debauch followed.

CASE II.—Moulder, aged 50, is a strong, robust man. No family history of alcoholism or other neurosis. Received a blow on the forehead about 30 years ago, where a depression still exists; began his drinking habits after that; has drank hard during last 15 months and is now imbibing all he can procure, sometimes 40 glasses of liquor daily. Had two injections twice daily for a week; took no liquor after the first day, and after the second day claimed to have no desire for liquor. He became ill with la grippe, having received 10 injections. I heard from him four or five months after and learned that he had not up to that time partaken further of spirituous drinks.

CASE III.—Insurance agent, aged 46; has a neurotic family history, there being cases of alcoholism and insanity. Has drunk steadily for 30 years. I requested this patient to drink all he wished during the treatment. He was poorly nourished, not having the means to properly maintain himself owing to his habits. Drank 20 glasses of ale first day of treatment, the number diminishing daily until the end of the first week, when his desire ceased. At the end of second week he appeared free from the drink crave and had improved very much in his physical condition. At the end of two months he again resumed his drinking habit; his relapse was attributed to his unwillingness to give up his life-long habit of ale at meals.

CASE IV.—Advocate, aged 40; has drunk inordinately for about 10 years; no hereditary cause; attributed the acquirement of the habit to the treating custom. Suffers from gastritis with morning vomiting and sleeplessness; gave sod. brom. and calumbo and parvules hg. subchlor. 1-20 gr. every hour. Gave first injection December 17th; found a tonic effect after first injection; no vomiting after next morning; took liquor daily until 25th; none after, all the catarrhal symptoms disappeared after the first week of treatment and also the desire for liquor. Ceased the treatment on January 1st, patient feeling quite restored. In a couple of months he had relapsed into his old condition.

December 26, '92, came to have another course of treatment, having confidence in its power to relieve him of his desire for alcohol. The gastric symptoms were predominant; the strong solution was used, beginning with 5 dcgms. and increasing daily until 10 was reached; gave two injections daily for 10 days and one daily for 10 days longer. After fourth day gastric symptoms were quite relieved and desire for drink gone; attempted a glass of wine a day or two after but found it flat and distasteful. While taking two full doses daily, on two occasions noticed for a few minutes involuntary contraction of upper limbs; since end of first week appetite and digestion have been good, and he claims to feel better physically and mentally than for months. He, however, will not consent to total abstinence for the future, which to those who can only drink immoderately is the only remedy.

CASE V.—Printer aged 40; single; a drunkard for about 20 years; no hereditary predisposition; accustomed to be off work two and three days each week; began treatment December 30th, 1891; the ordinary solution; had no desire for alcohol after first injection, recovering in a week his accustomed health. On inquiry I find he remained well for eleven months when he again resumed his drinking habits.

CASE VI.—Painter, aged 50; has drunk spirituous liquors since 18 years of age; father was a hard drinker; he cannot sleep and has no appetite; constipated; tongue coated, smooth at tip and edges; has an intense crave for alcohol; drank a few hours before beginning treatment; took no alcohol after first injection; was at a dinner party four days after where liquor was used, but had no desire for it and took none. After 15 injections was discharged much improved in general health and changed in his appearance.

CASE VII.—Corset maker, aged 32; has usea liquor for 15 years and excessively for 10 years; went on protracted sprees at irregular intervals; treatment continued from July 5th to 20th, 1892; was drinking when the first injection was given; no desire for liquor after second day, and steady progress afterwards towards his usual condition of health in the intervals of sobriety; four months after again resumed the habit.

CASE VIII.—Feb'y 9th, 1892, Druggist, aged 29; used alcohol since 9 years of age; had not taken any for two years previous to three months ago; had made many attempts to give up the habit but without success; no heredity; no insanity or nervous disease in family. Desire for liquor left after second day; stated that he had not experienced any of the symptoms of nervousness and depression observed at other times when breaking off; at the end of the two weeks treatment was in good condition and no desire for stimulants. Some two months after learned that he had relapsed.

CASE IX.—Auctioneer, aged 42; has drunk intoxicants for about 30 years, during last 6 years almost constantly; was irregular in his attendance and got about 20 injections; began drinking immediately after.

CASE X.—Waiter, aged 55, July 15th, has used liquor since he was 20 years of age; father drank; has abstained at intervals of 2, 3, 6 and 11 years. The last six years' abstinence ended a year ago, when brandy was recommended for sleeplessness, since then has drunk more or less constantly; was intoxicated when he got the first injection, July 15th, 1892; much gastric derangement and sleepless. Sod. Brom. used to procure sleep; had no desire after the first day and has not drunk any since.

CASE XI.—Aged 40, Feby. 25, 1892, no occupation; interdicted for some six years, a chronic inebriate with inherited predisposition. When first injection was given was in a stupor and semi-paralysed; had been drinking very hard for two weeks and had for the last week taken 60 grs. sulphonal at bed-time, furnished to him on his own application by a druggist At the end of two weeks had improved very much and for a week had not asked for stimulants. He then went out for a drive, and passing a saloon to which he was accustomed to go could not resist the temptation to enter. He was then placed in a private ward in hospital and the injections given for three weeks. After the fourth day did not ask for liquor and at the termination of the treatment had quite recovered himself and left, stating that he had no desire for alcohol and that he would not again touch it; three days after he had broken his resolution.

CASE XII.—Gardener, aged 33; Feb'y 23; has taken liquor since the age of 15; father drank. Patient gets intoxicated every pay night (Saturday) and would return to work Tuesday. He drank soon after the first injection; had two weeks treatment, one injection daily. He remained a total abstainer for five months. Reported himself again for treatment on December 9, 1892; had gone on a visit to the United States and while in company was induced to take a glass of beer, and for last four months has drunk more or less constantly and has been drunk daily for the last four weeks. Put ant. tart. into his accustomed liquor and advised him to use it for a day or two. While under the treatment it caused considerable nausea and vomiting; used the stronger solution twice daily for ten days and once daily for ten days longer; was free from the craving after the first day; took the tonic for five weeks, two days after it was finished began drinking again.

Case XIII.—March 1st, 1893. Widow, aged 44, has used liquor for 20 years, inordinately for four years; suffers from chronic gastritis, pains in the hands and feet. At the end of first week inclination for her usual stimulant had left and her gastric symptoms had much improved. During the first week of treatment she avoided passing the saloon which furnished her with whiskey, fearing that she would not have the courage to do so without calling. After the first week she passed it daily and was quite free from desire for alcohol; remained all right for six months.

Case XIV.—March 5th, 1893. Commercial traveller, aged 37, single; has been an alcoholic for 17 years; father drank. Took rye during first five days of treatment, but states that its effect is different to what it usually is, its effect being scarcely noticeable; he thinks that under the influence of the injection one can take larger quantities of alcohol without its having the ordinary effects; increased his injection to 1-20 gr.; after fourth day had no desire for his accustomed rye. On the thirteenth received some unpleasant news and tried to assuage his feelings with rye, but it was not gratifying and he took no more; remained all right one month only.

Case XV.—March 9th, 1893. Civil engineer, aged 42, has used liquor for 21 years; father drank. One gm. doses given; lost all desire after fourth day; three months after had resumed his drinking habits.

Case XVI.—March 27th, 1893. Butcher, aged 26, an inebriate for eight years; father uses liquor, but not to excess; one brother a hard drinker. Gave 30.1 gm. injection; lost desire for alcohol after fourth day and has remained an abstainer to this date.

Case XVII.—March 28th. Telegraph operator, aged 40, a drinker for 25 years; no hereditary predisposition; sleeplessness and gastric derangement. Took no liquor after first injection; made a satisfactory recovery; relapsed four months after.

Case XVIII.—April 5th. Broker, aged 47, has used liquor for 47 years, latterly is constantly under its influence; marked nasal acne; much gastric distress. Combined 1-120 grain atropine with the strychnine once daily; had three weeks' treatment; took liquor daily until end of first week, after that had no desire whatever. Stated at his last injection that he did not wish to give up the habit of using wine at dinner; he was advised of the danger of not doing so. Some two months after he was as bad as ever.

Case XIX.—July 11th. Commercial traveller, aged 41, single, no inherited tendencies; has used liquor since 18 years of age; now goes on prolonged sprees; has gastric catarrh; gave internally peroxide of hydrogen, tr. cinchonæ co. and tr. capsici. Used no liquor after first injection. Gave him a mixture to take for a month after his treatment, containing strych. nitrate in elixir of the phosphates with calisaya (Wyeth's). January 12th, six months after, reported having been a total abstainer ever since, although daily in places where liquor is retailed.

Case XX.—September 8th. Manager boot and shoe factory, aged 60; used alcohol first at 20 years of age. At 27 used it excessively; goes on prolonged sprees three or four times a year: has now been drinking four weeks; no hereditary tendency; patient is much debilitated; no appetite and cannot sleep; paraldehyde gave sleep; no desire for liquor after fourth injection, when he returned to his work and has remained well to date.

Case XXI.—October 3rd. Clerk, aged 37; has used liquor for 11 years; no hereditary predisposition; uses mostly whisky; sleepless; paraldehyde gave sleep; got 30 injections; no desire for liquor after two or three days. At the end of his treatment was feeling unusually well. He has remained at business and has not taken any liquor since.

Case XXII.—October 3rd. Agent, aged 59; has used liquor since a boy, and up to 55 years of age could get drunk every night and be up at work the next day, since then has been a confirmed inebriate; both parents were very intemperate. The injections within two days had improved the condition of his stomach and lessened the desire for alcohol. He continued his beer during the first week—a glass or two at bedtime. A couple of days before the treatment was completed he left the city for two days, and at a gathering of friends indulged very freely.

CASE XXIII.—Traveller, aged 40; had a sunstroke in 1880; no hereditary influences. Although he took a glass of ale occasionally it was not until after the sunstroke that he began to indulge freely; has now been drinking steadily for four weeks; he was sleepless and on the verge of delirium tremens; secured sleep readily with paraldehyde and sod. brom.; began with 7 dcgms. of the stronger solution, increasing it up to 10; 30 injections; drank none after first day, and made a rapid recovery, resuming work within a week.

CASE XXIV.—November 26th, 1892. Carpenter, aged 34; began to drink seven years ago. Takes two or three days continuous drinking spells at irregular intervals; last one continued a week; not inherited; sleepless and no appetite; three doses paraldehyde gave sleep; gave 30 injections, beginning with 7 dcgms. strong solution, 10 after third or fourth day; took no liquor after first injection; went to work on the second day and made a rapid recovery to his normal condition, and remained well to date; took the tonic for one month.

CASE XXV.—December 8th, 1892. Broker, aged 30; has used alcohol for about eight years; excessively for six years; no heredity; much gastric derangement; gave a purgative of powdered rhubarb and calomel and sodium bromide peroxide hydrogen trs. calumba and capsicum internally; required paraldehyde to get sleep; blood examined; there were 4,400,000 corpuscles to the cubic millemetre, about 7-10ths of these were very irregular in shape, shrunken with jagged edges, some of the projections acute, others truncated; no craving for alcohol after 3rd day of treatment; 30 injections, all 10 dcgms. after 3rd day. Although mingling with his old associates daily in places where liquor was sold, felt no desire whatever for it; appetite was good and he appeared fully restored to his usual health.

From the results obtained in these twenty-five cases we can learn that simultaneously with the use of this remedy the crave for alcohol in inebriates diminishes and in a few days is completely gone, and through the withdrawal of the poisonous beverages and the tonic effects of the strychnine there is a more or less rapid restoration to sound physical health and of the mental powers; but as most of those treated have relapsed within from one to eleven months, the inhibiting power of the remedy is not permanent, and while it temporarily relieves the distressing and overwhelming crave for more stimulant and promotes a return to normal health and in which condition these patients may continue to remain, yet they still lack the necessary will power to enable them to avoid the dangers which they know will precipitate a return to their previous enslaved and degraded condition. So that while it is fully within the power of medical science to restore these patients to temporary health, strychnine does not —as doubtless no drug treatment ever will—prevent the possibility of further relapses, although we can always depend on it to arrest what would be a prolonged debauch if its aid is early resorted to.

That weakened will power is a result of the prolonged use of alcohol is generally conceded, as is the fact that the tendency to alcoholism is in a large percentage of cases inherited, and that it is often as dipsomania one of the manifestations of insanity. A definite series of pathological conditions follow the continual indulgence in alcohol, differing only in degree in the milder methyl to the powerful effect of amyl alcohol, the nervous system showing the earliest and most marked disturbance, although every organ and tissue in the body eventually suffers. These and many other facts have led neurologists to place alcoholism as a distinct disease among the neuroses.

This position implies a complete revolution in the methods of treating these cases, and has brought to the aid of philanthropists and moralists the assistance of the medical profession, upon whom now devolves the duty of further elucidating the true pathology of the disease and indicating the best means of restoring this numerous class of patients to a normal condition.

That the urgent demand for relief from the evils of intemperance is being recognized by the profession is evidenced by the increased interest taken in the work of the American Association for the Study and Cure of Inebriety, and in the section for the study of inebriety of the British Medical Association, and an ever increasing number of scientific investigators throughout the world.

Before rational and effective measures can be adopted for the proper management of inebriety we must have correct opinions in regard to the physiological actions of alcohol and the pathology of the disease, otherwise we must trust to the empirical results of experience.

The decomposition of alcohol which takes place in the economy, is not yet known. It has been generally accepted that from 1 to 2 oz. can be oxidized in the system, giving heat and force to the extent of the oxygen used, but the tissue changes are lessened as evidenced by the diminished excretion of urea, and CO_2, and to the degree that they have been robbed of O by the systemic digestion of the alcohol; from this fact has sprung the idea that it conserves the energies and lessens waste, and on this assumption it is frequently prescribed as a sustaining remedy; but a view which would appear to be nearer the truth of the matter, is that which denies that alcohol is a food in any sense, but being a ptomaine, a result of decomposition, it is like them generally, a poison in all its actions. That it is not oxidized in the system, but that it combines with the hæmoglobin and destroys its functions of absorbing O, the diminished urea and CO_2 being in this way accounted for. Other observers have demonstrated that the leucocytes have their vitality lessened by the continued use of alcohol, and in harmony with our recent views on phagocytosis this fact would explain the greater susceptibility of drunkards to the action of pathogenic bacteria, and their lessened resisting power in throwing off disease, although Mortimer Granville maintains an opposite view on this point, and claims for alcohol drinkers a greater immunity than abstainers. That the red corpuscles are profoundly altered was observed in the last case I reported, the only one in which the blood was examined. We have here the evidence of a veritable poikilocytosis in a subject where neither aglobulism nor achromatosis existed. Most of the effects of alcohol are apparently explained by its paralyzing effect on the vaso-motor system, from the first contact; we have also the slight stimulating effects on the heart of small doses, and its local and reflex irritant action on the alimentary tract, which results in increased buccal and gastric secretion, thus favouring digestion. But even this advantage is not upheld by the recent experiments of Blumenau, who found that the total action was impairment of digestion, and when we take the fact that even the stimulating effects are quickly changed into paralytic conditions, and when often repeated leading to exhaustion of every function and more or less general degenerative changes throughout the body, we can readily understand how we are to get beneficial effects from drugs having the action of strychnine.

The chief action of alcohol, then, is to paralyze the vaso-motor system, dilating the arterioles. Strychnine, besides exalting the excitability of the spinal cord and probably the motor centres in the brain, stimulates the vaso-motor centres, contracting the arterioles, as well as being one of the most efficient heart tonics, through its stimulating effects on the cardiac ganglia.

While we have in strychnine a true antagonist to the action of alcohol, and one that will counteract its effects, the inebriate still requires aid which can scarcely be expected of drugs. He needs the mental and will power to overcome his acquired or inherited tendency to resort to narcotics. This must come from treatment which seeks first to restore all the abnormal conditions of the patient, whether due to alcohol or otherwise. Then strict abstinence, in which must be aided by moral suasion, the diversion of continual employment, and the education of the mental and moral faculties to a higher status; even the influence of hypnotic suggestion may be applied in suitable cases, as has been done recently with a fair measure of success. And when these means fail, then institutions where voluntary or forced detention can be secured and where all the present known means can be most successfully applied, must be the only hope of restoring these unfortunate subjects of narcomania.

DISCUSSION.

Dr. **GORDON CAMPBELL** said that it is claimed that by the hypodermic administration of certain drugs you get an effect not obtained when absorbed by the stomach. Of these drugs strychnia is one of the best examples, and by giving it hypodermically and rapidly increasing the dose it is believed you get the full momentum of the drug, an effect not otherwise obtainable.

Dr. **SMITH** did not believe in a tendency to alcoholism being inherited.

Dr. **GUERIN** said that he had had some experience in the treatment of alcoholics, but has never yet used strychnia. If there is any good to be derived it is simply by means of suggestion: we should make patients understand the injury they are doing to themselves. He generally gives them some mild sedative, some hypnotic; and further than that, stops the stimulant, and as a general rule gets very good results. From what he had heard of the paper, no exceptionally good results have been claimed for strychnia, as the majority of the cases relapsed within a few months. He was glad to see this question ventilated, as it is a subject much spoken of lately, and to learn through Dr. McConnell's paper that after all there is not much to be expected from it. The apparent good results are due largely to the moral influence of the introduction of the needle and the impression which the patient receives that a very powerful remedy is being employed in his behalf and that consequently the results must be very great.

Dr. **GEO. T. ROSS** did not think that the hypodermic administration of strychnia had any peculiar action in the case of chronic alcoholism. Its use is indicated in all cases of gastritis or other affections where the stomach will not retain anything. Vomiting is a common feature in these alcoholics, and the increased effect of the drug when administered hypodermically may be due not to any special power in the drug itself, but rather that it is better absorbed in that way. He has used hypodermics of strychnia in the vomiting of pregnancy, and in cases of gastritis due to causes other than alcohol, and with, in every case, satisfactory results.

Dr. **Proudfoot** thought that Dr. McConnell's paper clearly shows that in strychnia we have a drug which will destroy the appetite for alcohol; and even if only for a few weeks it is hence a great boon. There are many cases where men have been incapacitated for days and months at a time by this habit, and if we know that the nitrate of strychnia will remove or destroy the taste for whiskey and break up an attack of this kind, it is a very valuable piece of knowledge, and something that it would be very well for every doctor to become practically acquainted with.

Dr. **Anglin** said that inebriates were not received in the asylum unless they can be proved insane; he thought this a pity, as in his opinion the best treatment of all for the inebriate is to put him in some home where he is removed from the contact or possibility of drink.

Dr. **Stewart** has had no experience in the treatment of alcoholism by strychnia. Of course if the latter has such a power it might be readily proven; half a dozen medical men could, in the course of their practice, confirm or refute these claims in a week. He questioned very much whether any drug has that power.. Two or three years ago there was a great deal of talk made in connection with hypnotism, but so far as he can read on the subject, hypnotism is practically useless in this respect. In fact, until general moral measures are more advanced there is very little to hope for from any kind of treatment.

Dr. **Reed** thought it is bad that the idea should become popular that the craving for liquor was a disease instead of a vice.

Dr. **McConnell** said, in answer to Dr. Guerin's remarks as to getting equally good results by the administration of tonics by the stomach, the quantities administered could only simply exercise a local tonic action on the stomach. Again, we have to distinguish between a sort of mania for alcohol and the effects of alcohol on the system. Most of the vaunted cures we hear of claim to cure alcoholism out and out; now, we can never expect such an effect from any drug. To transform the desires of an individual so completely as to cure him for all time from a distinct neurosis is something that it is hardly reasonable to expect from the administration of a dose of medicine. By using the drug hypodermically you get the action more purely. It is a well known fact that the liver is the great disinfecting organ of the body, and were it not for its destructive powers on the ptomaines we could not live. Just as it does this, all agents administered by the stomach are diminished in their physiological powers, so that by giving them hypodermically we get nearly double the action and very much better results.

From the results of his cases we may conclude that the strychnine simply restores the original condition; when the desire relapses a few more doses will cause it to disappear in the course of a few days. Take a man who is practically useless to his family, if you can destroy the appetite for even three weeks, is it not a decided advantage?

In regard to what Dr. Stewart said about hypnotism it is much on the same line as the other remedies. We can find no single remedy to eradicate the alcoholic habit, but every means that helps towards that end should certainly be adopted. Dr. Stewart's paper on epilepsy, read some time ago, simply looked for cure in educating the brain in every way possible; and the same line of treatment must be adopted in alcoholism. The inebriate must be surrounded by a higher moral tone, and every means we know of to elevate the human being adopted before we can expect any permanent results.

MONTREAL CLINICAL SOCIETY.

Stated Meeting, April 22nd, 1893.

DR. SPIER IN THE CHAIR.

Dr. H. **REDDY** was elected a member.

Dr. **THOMPSON** read the report of a case of "Carcinoma Testis." Age of patient 37; father of three children; no history of syphilis or tuberculosis, but his mother had died of cancer. He had injured the organ three years ago. In March, 1892, it was the seat of an acute pain which subsided, but left a hard nodule in the upper part of the epididymis. When first seen this was non-tender, but the testicle generally became involved and lost its testicular sensation. As the organ was functionally useless, and was causing great depression of spirits it was removed by Dr. Shepherd. To the naked eye the testicle appeared to be tubercular, but microscopic examination showed it to be the seat of cancer and inflammatory changes. The specimen and microscopic sections were also shown.

Two cases of "Bradycardia" were then reported by Dr. **Gunn.** The first patient was an applicant for life insurance. The pulse beats were only from 28 to 35 per minute. The patient was a well developed male. There was no organic disease of the heart. He was a heavy smoker, but a month's abstinence produced no change in the pulse, showing that the slow pulse was not due to "smoker's heart." Patient was recommended for insurance, but was rejected on account of the brachycardia. This patient was living three years after.

In the second case the pulse was not normally a slow one, but the bachycardia came on during an attack of grippe. Digitalis made the pulse worse, but it gradually improved up to normal, *i.e.*, about 70. Lowest number of beats per minute recorded is three, there being an intermission of 35 seconds between two of the beats. This occurred in an epileptic patient. About 50 per cent. of cases of brachycardia recover. The symptom is often caused by bacterial poison, as well as by disease of the brain, cord or heart.

Dr **Kenneth Cameron** related the case of an old man who at times had a pulse of 48 and at others of 180. The latter was possibly due to an attack of malaria which the patient had 15 years ago. He also saw recently a deaf and dumb boy with sub-acute rheumatism, whose pulse one evening ran down to 46. This was followed in two days by an attack of chorea.

Dr. **Gordon Campbell** attends a family in which the mother has a pulse between 50 and 60, while that of each child is below 70. The children are from 15 to 28 years of age.

Dr. **Haldimand** had seen, out of 37 applicants for life insurance, three patients whose pulses were between 50 and 54 beats per minute.

Dr. **Reid** had observed a pulse of 95, 90 and 95 on three respective visits in a patient who lived 5,000 feet above sea level. After a person has lived at that altitude for some time the pulse usually falls to the ordinary number of beats. He had known a miners's pulse to be 60 when in the mine and 80 when on the surface. This was probably due to the atmospheric pressure being greater at a distance from the surface and to the increased respiration on the surface causing an increase in the heart's action.

Dr. **Spier** had observed two cases of slow pulse. Normally, in these patients, the pulse was 70 to 75, but during early convalescence after diphtheria the pulse fell to 40 and 48. It improved with diet.

Dr. **Kirkpatrick** said that the normal pulse varied, and that it would be better if the text-books would give 65–80 as the limit of health. This subject is very important as regards life insurance. A candidate whose only defect was a pulse of 65 should be accepted for life insurance.

Dr. **Gunn** replied.

Dr. **Gordon Campbell** then read a most interesting paper on "Asthma." He divided the causes into predisposing and exciting, giving the various theories of its causation. The presence of some one exciting cause renders the patient susceptible to the effect of others which would be impotent of themselves. One symptom noticed by Dr. Campbell, and which is not mentioned in text-books, is the eructation of large quantitias of gas, breathing being relieved temporarily by each eructation. This gas is shown to come from the stomach by measuring the abdomen and by the gas tasting of the contents of the stomach. It is not derived from food, as it may occur long after food is taken. He explained that it was drawn into the stomach during the powerful inspiratory efforts. The treatment of asthma is climatic, anti-spasmodic and remedial.

Dr. **Evans** believed in the neurotic theory of some forms of asthma and would treat the case accordingly.

Dr. **Gunn** considered that Dr. Campbell's line of treatment was good. Electricity does not act well. He had used chloroform with a good result in a case where all else had failed. Cilia of bronchi have probably little to do with twisting of the bronchial casts, this condition being due to twisting of the bronchi themselves.

Dr. **Reid** did not think that in a sudden attack there was time for the bronchial mucous membrane to swell up.

Dr. **Allan** said that an irritating gas did not bring on a paroxysm instantly, but that it took some minutes to act.

In reply, Dr. G. **Campbell** held that the shortness of time which elapses between the irritation of the gas and the attack proved its musular origin. If due to a nerve storm it is difficult to explain the return of an attack after a year's immunity.

Stated Meeting, May 6th, 1893.

DR. W. GRANT STEWART IN THE CHAIR.

The Secretary read the report of Dr. **Orr's** case of tracheotomy for a foreign body. The patient, a boy aged 7 years, when first seen was cyanosed and had dyspnœa with a quick, intermittent and weak pulse. After trying, unsuccessfully, to dislodge the body, Dr. Orr performed laryngo-tracheotomy, as it was easier to perform than tracheotomy, and he had no skilled assistant. After opening up the trachea the patient was placed on his face with his head held down so as to prevent blood from flowing into the trachea. While in this position the patient began to retch, and the foreign body, which turned out to be a screw-nail, dropped out on the floor. The wound was completely closed by strips of plaster and the boy made a perfect recovery. Dr. Orr had constructed a temporary tracheotomy tube out of a piece of silver catheter and a large cork.

Dr. H. D. **Hamilton** suggested that external manipulation might be beneficial in cases like the above.

In reply to a question of Dr. **Morrow's** as to what position the body had occupied, Dr. Gordon Campbell said that as retching had caused it to fall out it must have been above the vocal cords and have fallen out of the mouth.

Dr. W. **Grant Stewart** remarked upon the difficulties of a tracheotomy even with skilled assistance and congratulated Dr. Orr upon the success of his case when he had to perform the operation alone.

Dr. **Allan** then read a very interesting paper on "Empyæma," going especially fully into its causes, prognosis and treatment. Some authorities hold that when it is due to diplococci you should aspirate, but in other cases you should open up the pleural cavity and drain. He related a case in his own practice which showed that one ought not to be too precipitate in performing Esthlander's operation in children, his case recovering without it. Aspiration is usually of service in pleurisy with effusion, but must be performed early to be of any benefit in empyæma, as if done late the tube is apt to become blocked up by lumps of pus. Continuous syphon drainage is very useful but difficult to carry out, owing to the patient requiring to keep so still. Incision and drainage is the commonest mode of treatment among English surgeons, but Esthlander's operation is very good in picked cases. Most observers practice as little washing out of the cavity as possible, as the new granulations are easily broken down. Double empyæma, although formerly always fatal, is not so now. Two cases have been recently reported in the *Lancet*. One pleura is usually operated on before the other.

Dr. **Kenneth Cameron** said that if pus was left too long in the pleural cavity, the lung remained collapsed. He described a very useful method of causing the lung to expand by the patient's blowing into a bottle filled with fluid, which ran out of the bottle through a tube into a second one.

Dr. **Evans** had observed that empyæma was very insidious in children, as the effusion may come on without giving rise to any symptoms. He cited the case of a child brought to him simply because its breathing was peculiar, although the chest was full of fluid.

Dr. **Morrow** wished to add to the list of causes mentioned by Dr. Allan. He had seen a patient in whom a renal calculus had set up an abscess which burst into the pleural cavity.

Dr. **Gordon Campbell** related a case of localised empyæma which had burst into a bronchus. The man had expectorated quantities of pus at intervals for some time.

Dr. W. **Grant Stewart** spoke of a young man who had spat up pus for a long time. He had consulted the leading physicians in England, etc., but none could discover the cause.

dency to shortening, and an extension apparatus was applied, which was subsequently replaced with a long splint. The wound healed practically under one or two dressings, and the stitches were not removed for thirty days. The patient left the hospital December 5th, 1891, with his bones firmly united and the wound healed, two months and two days from the time of his entrance. I call attention especially to the union of the fracture, one piece having been entirely detached, removed, cleaned and wired in position, and to the speedy and satisfactory healing of the extensive lacerated wound without drainage and without suppuration. During the first week the temperature varied between $97\frac{2}{5}$ and 102°, subsequently becoming and remaining normal.—*Maryland Medical Journal*, March 11th, 1893.

A Danger to Surgeons.—An interesting observation made by Prof. Albert on himself emphasizes the importance of caution on the surgeon's part in the use of the poisonous antiseptics, especially corrosive sublimate solutions. At a recent meeting of the Vienna Medical Society, the professor stated that for some time he had suffered from dyspepsia, for which no cause could be assigned by the physicians he had consulted. Lately the condition had become very troublesome, and the thought had occurred to him that the constant and free use of corrosive sublimate in his operations might have some share in the causation of the dyspepsia by reason of the absorption of small amounts of this drug. Accordingly he had his urine examined by Prof. Ludwig, the entire quantity passed during twenty-four hours being tested. The examination revealed the presence of iodide of mercury in quantities comparatively large if the manner of absorption of the substance be considered. While Professor Albert is not positive that his dyspepsia is due to chronic mercurial poisoning, he thinks that the facts that his finger nails have lately become softer and that he has lost three healthy teeth, seem to point in this direction.

Employment of Light in the Treatment of Disease.—Arnold (*Pacific Medical Journal*, November, 1892,) advises the use of sunlight as having distinct germicidal properties, especially when concentrated.

He filters the heat-rays out of a beam of sunlight with a flat cell (a common whiskey flask free from flaws does well) filled with a saturated solution of alum, and then condenses the light upon the affected part by means of a common lens. He has obtained distinct escharotic effects from a greater degree of concentration, although cosmoline would barely melt at the focus of the lens, a temperature of about 120° F. The effect is obtained with little or no pain, although the entire thickness of skin is reduced to a whitish pulpy mass. Hence it is plain that concentrated light, minus its grosser heat, is both anæsthetic and escharotic, the last in a mild degree.

A Remarkable Deformity of the Pelvis, in Consequence of Fracture of the Sacrum.—A woman brought into the gynecological ward of the Philadelphia hospital, on December 16th, gave the following history:

Age thirty-two. Has had six children, the last, three years ago. Three months ago, during a menstrual period, she fell from a third-story window striking with an unbroken fall upon the brick pavement of the yard below. One leg was broken, the skull, she thinks, was fractured, and some injury, she believes, was inflicted on the backbone. Since the fall she has not menstruated, and has suffered severe pain in the lower abdomen, which, however, of late has steadily decreased. She was transferred to our department from the surgical ward after her head injury and the broken leg had been repaired. An examination of the pelvis gave the following result: The uterus is in good position, movable; behind and to the right is a mass that gives me the impression of a diminishing, encysted hæmatocele. Directly the finger enters the vagina, a peculiarity of the posterior pelvic wall attracts attention. The coccyx and lower sacrum are much higher than they should be in the pelvic cavity, and they project forward at a right angle to the rest of the sacral bone, so that they encroach, to an extraordinary degree, upon the antero-posterior diameter of the pelvis. An external examination shows a transverse fracture of the sacrum at the level of the posterior inferior spinous processes of the iliac bones, a dislocation of the lower fragment inward, and a firm bony union of the two fragments at a right angle. From the seat of fracture to the tip of the coccyx, the pelvimeter measures seven centimetres. From the tip of the coccyx to the lower edge of the symphysis pubis the measurement is seven and a half centimetres. Thus the antero posterior diameter of the pelvic outlet is reduced three and a half centimetres or almost one and a half inches, for the backward displacement of the coccyx in labour, that increases this diameter from nine and a half to eleven centimetres, has become impossible. I believe, therefore, that should this woman again become pregnant a symphysiotomy or a Cæsarean section would be necessary for her delivery, most likely the latter.

Out of 13,200 fractures reported from nine large hospitals in this country and in Europe, but 0.8% were fractures of the pelvis; and in this small proportion, fracture of the sacrum figures as the least frequent of all injuries to the pelvic bones. When one considers that almost all grave injuries to the pelvis end fatally, the rarity of a pelvic deformity in a woman of childbearing age dependent upon a united fracture of a pelvic bone may be appreciated. In a rather cursory search through obstetrical literature I cannot find anything just like this case.—Boston *Med. and Surg. Journal*, Jan. 5, 1893.

Healing of Chronic Ulcers. — Votey (*The Physician and Surgeon*, Jan., 1893), recommends chicken skin as a graft for weak indolent ulcers of the leg. He procures a spring chicken, and, as soon as it is killed, he takes a piece of skin from under the wing and places it in a one-four thousandth bichloride solution. This he cuts into pieces one-tenth to one-fourth inch square, and the ulcer and surrounding parts having being carefully cleaned, these pieces are laid upon the granulating surface near the circumference. Over this is placed a layer of lint spread with iodoform ointment, then covered with bichloride cotton and bandaged. The patient is instructed to remain in bed. He reports five cases treated by the method and in which he obtained good results. He says in conclusion: "With the exception of the last these were unpromising cases, in which other means had been tried with poor results. Chicken skin furnishes a graft easily procured, and in sufficient quantity. It is easily applied, and produces a cicatrix much smaller, and not so contractile as by strapping or other methods. Whether or not it is durable would remain to be answered by further investigation, but so long as seen these cases showed no tendency to break down again."

To Cut Short Whooping Cough in Twenty-four Hours. — The *Illustrated Medical Journal* says that Dr. Moncorro treats pertussis with a ten per cent. solution of resorcin, by applying the solution every two hours to the perigloteal region with a throat-brush. The application is made four or five times at each seance. The theory of the treatment is that the disease is due to a micro-organism and affects primarily the larynx. Cultures of the micro-organisms have been destroyed by the smallest amount of resorcin.

Lipoma of the Tongue.—M. Weill (*Union Med. du Nord Est*, January, 1893,) reports a case of lipoma of the tongue occurring in a man aged 71. There was no venereal history, but a history of alcoholism and excessive smoking. The tumour appeared three years before on the right border of the tongue, about four cent. from the tip. It grew slowly, until at the time of the operation for its removal it had attained the size of a filbert. The mucous membrane covering it was thinned and showed the yellow colour beneath. The growth was senile and appeared to penetrate into the substance of the tongue, pushing aside the muscular fibres. It was oblong, smooth and presented a characteristic softness and false fluctuation. To the touch it was multilobar. Tactile sensibility was unimpaired, as also was motion. Taste was blunted all over the tongue, probably from the use of alcohol. There was no enlargement of the glands in the neighbourhood. An incision three cent. long was made over the mass, which was then easily shelled out, and the edges of the wound approximated by sutures. Recovery uneventful. It proved to be a pure lipoma. The case was reported before the Société Médicale de Reims, and in the discussion M. Guélliot stated that only twenty cases had been reported, and that some of them were myxo lipomata of congenital origin.

THE PAN-AMERICAN MEDICAL CONGRESS.

The Section in Marine Hygiene and Quarantine has been organized as follows: Honorary presidents—Dr. Lino Alarco, Lima, Peru; Dr. Henry B. Baker, Lansing, Mich.; Dr. Cardenas, Managua, Nicaragua; Dr. J. J. Cornilliac, Martinique, F. W. I.; Dr. Felix Formento, New Orleans; Dr. H. B. Horlbeck, Charleston; Lieutenant-Colonel Amalio Lorenz, Sub-inspector of second class Spanish Navy, Havana; Dr. F. Montizambert, Quebec, Canada; Dr. Francisco Nunez, St. Tecla, Salvador; Dr. Juan Ortego, Guatemala, Guatemala; Dr. Joseph Y. Porter, Jacksonville, Fla.; Dr. John Pringle, Kingston, Jamaica; Dr. Juan J. Unoa, San José, Costa Rica; Dr. J. Mills Browne, Surgeon-General United States Navy. Executive president—Dr. Walter Wyman, Surgeon-General United States Marine Hospital Service, Washington. Secretaries—Dr. S. T. Armstrong (English-speaking), 166 West Fifty-fourth street, New York; Dr. G. M. Guitéras (Spanish-speaking), United States Marine Hospital Service, Washington. Advisory Council—Dr. H. M. Biggs, New York city; Dr. John C. Boyd, United States Navy; Dr. H. R. Carter, Norfolk, Va.; Dr. W. M. L Coplin, Philadelphia; Dr. A. G. Clopton, Galveston, Texas; Dr. C. G. Currier, New York; Dr. S. Durgin, Boston; Dr. Seneca Egbert, Philadelphia; Dr. George Homan, St. Louis; Dr. W. T. Jenkins, New York; Dr. J. F. McShane, Baltimore; Dr. G. H. F. Nuttall, Baltimore; Dr. S. R. Olliphant, New Orleans; Dr. Dabney Scales, Mobile; Dr. R. M. Swearingen, Austin, Tex.

The Executive President desires to call the attention of all members of the medical profession that are interested in the topics pertaining to this section to the regulation of the Congress, that contributors are required to forward, not later than July 1st, to the secretary of the section, abstracts, not to exceed six hundred words each, of the papers they propose to present before the section.

The topics that will be considered by this section are as follows: 1. The hygiene of vessels, commercial or naval, including the questions of ventilation, heating, sanitary arrangements, the disposal of cargo so as to facilitate disinfection, food supply, etc. 2. The medical officers of passenger vessels; methods for their selection, duties, etc. 3. The vital statistics of seamen and firemen. The question of the medical examination of crews preparatory to shipping. 4. The supervision of vessels by government medical inspectors at ports of arrival and of departure. Code of rules for handling an epidemic disease that breaks out on shipboard. Disinfection of passengers and crew during a voyage. Location and arrangements of ships' hospitals. 5. Epidemic and exotic diseases propagated by shipping. What diseases should be quarantined. Responsibility of nations for epidemics; India for cholera, South America for yellow fever. Can a feasible plan be devised to totally exterminate cholera? International intervention to prevent the propagation of cholera or other epidemic diseases by pilgrimages or immigration. 6. International uniformity in quarantine regulations. Should quarantine officers be notaries public? 7. Arrangement of detail and equipment of quarantine stations: *a*, inspection stations; *b*, local quarantine stations; *c*, refuge stations. Methods for handling infected or suspected vessels. Interstate and inland quarantine; sanitary cordons; camps of refuge; camps of probation. Recent improvements in hospitals for infectious diseases. Railroad inspection and quarantine. Length of time vessels should be held in quarantine. Conditions that should determine proclamation of quarantine against a country. Under what requirements may passenger traffic be carried on between a port infected with yellow fever and a Southern port of the United States during the summer with the least obstruction to such traffic? What merchandise should be considered as requiring treatment if shipped from a port or place infected with cholera, yellow fever, or small-pox? Methods of disinfection: *a*, persons; *b*, baggage; *c*, cargoes; *d*, vessels. Recent improvements in quarantine appliances; steam chambers; sulphur furnaces. Liquid sulphur dioxide as a disinfectant. Treatment of ballast: water; solid. What time should an infected vessel be detained in quarantine: *a*, for cholera; *b*, for small-pox; *c*, for typhus fever; *d*, for plague; *e*, for yellow fever. Methods of disposal of the bodies of those that die while in quarantine.

THE

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PREVENTION OF TUBERCULOSIS.

We are glad to learn that a League for the Prevention of Tuberculosis is about to be formed here. It will be conducted much upon the same lines as the *Ligue preventive contre la Tuberculose*, an organization in France which owes its origin to the foresight and energy of Dr. Armaingaud and which promises to do excellent work.

The object is to interest and instruct the public in those simple, common-sense measures by which infection from tuberculosis patients may be prevented. We wish this new association a long and successful career.

THE ROYAL VICTORIA HOSPITAL.

At a recent meeting of the Board of Governors of the Royal Victoria Hospital Dr. Roddick was appointed Attending Surgeon, Dr. James Stewart Attending Physician, and Dr. Adami Pathologist.

Dr. Roddick is Professor of Surgery at McGill University and has for twenty-five years been connected with the General Hospital, at first in the capacity of House Surgeon and later in that of Attending Surgeon.

Dr. Stewart was elected in 1886 to the position of Assistant Physician to the Montreal General Hospital and of Attending Physician in 1890. He is Professor of Medicine at McGill University, and for the last ten years has been closely identified with that learned institution.

Dr. Adami has not been with us very long, but already has won golden opinions for his grasp of the subject, the professorship of which he holds. He is a graduate of Cambridge University and a Fellow of Jesus College and came to Montreal to take charge of the newly created chair of pathology at McGill University.

At the meeting of the Corporation of the Montreal General Hospital, when the resignations of Drs. Roddick and Stewart were received, the following vote of thanks was unanimously adopted :

" That this Corporation desire to place on record their appreciation of the great value of the services rendered by Drs. Roddick and Stewart during the long period in which they have been officially connected with the medical direction of the hospital, which, in the case of Dr. Roddick, covers about twenty-five years, while that of Dr. Stewart extends over six years."

We wish our editors and their colleague all successs in their new positions, and congratulate the Royal Victoria Hospital on obtaining such an able and experienced Medical Board.

THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

The following invitation has been sent to the Governor-General asking the participation of Canada in the Eleventh International Medical Congress, which will be held in Rome from the 24th of September to the 1st of October of this year :

My Lord—In 1893 Italy will celebrate in Rome the triumph of the science which devotes efforts and labour to softening mankind's burden of misery—Medicine.

From the 24th of September to the 1st of October, 1893, shall take place the eleventh session of the International Medical Congress, and thus will be fulfilled the wish expressed by the congressists at the preceding meeting, Berlin, 1890.

This pacific meeting, dedicated to scientific work, shall not only affirm the power of human intellect, but will in the meantime newly demonstrate how, under the dominion of science, vanish the rivalries of nations and humanity becomes the common home.

The central committee, bearer of the news of all Italian physicians, takes the liberty to pray, through Your Lordship, the most honourable Government of the colonies of Great Britain and Ireland in Canada, to partake at this meeting by means of special delegates, and fervently hope that, considering the sublime aim its efforts are directed to, this prayer may be kindly granted.

With the profession of profound devotion, have the honour to remain,

For the Central Committee, Your Lordship's most obedient,
(Signed) Prof. Guid. Baccelli,
President,
(Signed) Prof. E. Maragliano,
Secretary.

Rome, August 20, 1892.

Members of the Canadian Medical Association who propose attending the Congress can obtain certificates of membership from Dr. H. S. Birkett, Secretary Canadian Medical Association, Montreal.

RHOPALOCEPHALUS CARCINOMATOSUS.

This new parasite of cancer has been discovered lately by a Russian, Dr. Korotneff. For several years the idea has been gaining ground that carcinoma is caused by parasites, and that these parasites, unlike the various forms of bacteria, are animal not vegetable. These animal forms have been named coccidia, and are supposed by the irritation of their presence and products to cause the increase in the cellular elements so characteristic of cancer. Korotneff, in the course of some observations on an epithelioma of the upper lip, found a "great quantity of a peculiar parasite, to which he gave the name of *Rhopalocephalus Carcinomatosus*." It is ribbon-shaped, long and narrow, with the anterior extremity somewhat thickened and resembles a young tænia solium. In the thickened part (the head) is a granular nucleus, without nucleolus, staining strongly with gentian violet, a deep red colour which is very characteristic, the nuclei of the other cells being stained deep violet, almost black. He classes this parasite with the rhizopods, considering the long, narrow part as a pseudopod very much lengthened. Bondi's reagent gives the body (the plasma) a very characteristic yellowish red colour.

While recognizing that it is premature to draw definite conclusions, Korotneff believes that this parasite is the starting point of the cell-nests. It penetrates into a cell which it does not destroy but excites to increased action. This reacts on the surrounding cells in a deleterious way, they are flattened and pressed back about the diseased cell, which thus becomes the focus of a nest. Sometimes two neigbouring cells are thus affected; as the nest of cells develops the number of parasites increase. In no case was an alveolus found without one or more of the rhopalocephali.

As to the coccidia, the author thinks that they too can be the starting point in the formation of nests of cells, but these alveoli may be distinguished by two characteristics: 1, The cavity is more strictly limited, and 2, There are fewer flattened cells about the centre.

Dr. Korotneff has not yet finished his labours, and we trust soon to hear more from him on this important subject.

PROTESTANT HOSPITAL FOR THE INSANE.

The report of the Medical Superintendent of the Protestant Hospital for the Insane for 1892 is a most gratifying one, and from it we quote the following extracts as showing the work done in this institution:

The number of admissions was 101, many male patients having been refused on account of the crowded state of the male wards. The number remaining in hospital is 185, of whom 114 are males and 71 female. The number discharged as recovered was 48, as improved 15, and as unimproved 8, while 10 died. This gives a percentage of recoveries on the number admitted of 47.52, and of deaths on number under treatment of 3.71, while the total number of discharges was 70.29 on the number admitted. Of those received, 14 were so advanced in years as to leave but little prospect of amendment, 3 being over 80 years of age, 5 over 70, and 5 over 60. The youngest patient admitted was 17 and the oldest 84 years. The former made a good recovery, while the latter shows no improvement. Of the various causes assigned for the disease mental anxiety and worry ranked first, while domestic trouble and grief were equal with intemperance holding second place. Heredity was admitted in 31 per cent., while in 33 per cent. no definite information could be obtained on this point.

In the matter of education, only 19 per cent. were of superior intellectual attainments, while 13 per cent. were totally uneducated, and 18 per cent. could not write. "The better the education, within certain limits, the less probability of insanity. Many reasons have been advanced for this proneness to brain disease among the uneducated, but to me it has always seemed that the primary cause lies in the lack of sufficient mental exercise. As the musular system deteriorates for want of sufficient physical exercise, so the brain suffers for want of mental. Like the muscles, the brain may be overtaxed, or, on the other hand, not receive sufficient employment. The athlete breaks down from over-training—the muscles of those who take no exercise are weak for want of it. In like manner the brain may fail from over-stimulation or too little of it. As in physical culture, so in mental, we should aim at the happy mean suitable for each case, and, to attain the best results in both mind and body, mental and physical culture should go hand in hand."

Some of the patients had been suffering from mental disease for many years before admission, one as long as thirty years, and a protest is entered against the delay in bringing such cases to hospital, as "the curability of insanity by proper hospital treatment is markedly in direct ratio to an early resort thereto, and yet how often is it looked upon only as a last." The Superintendent also remarks on the number of relapses occasioned by the premature removal of patients by their friends, who listen to the pleadings of the patient rather than to the advice of the medical attendant.

A plea is entered for a change in the law, by which patients may be received on their own written request for admission, as is now done in some European countries and some of the States of the Union.

"In connection with the admission of patients the question is often asked us: How can we best get the patient to the hospital quietly? In nine cases out of ten the friends resort to subterfuge. To all such I would say, you are directly injuring the patient by such procedure. Use force, if necessary, even to the extent of calling in the services of a policeman, but *never* deception. It lessens the prospects of cure by making him look upon the institution with dislike, as a prison rather than a hospital, and tends to destroy his confidence in his friends, or regard those in whose care he is placed as alone responsible for his detention. Tell the patient frankly that his physician and friends regard him as *sick*, that he is being taken to *hospital* to give him the best chance of being cured, that as soon as he is well he will be removed again, and that he *must* do as directed." We give the last extract in full, for coming from one who has had so much experience as Dr. Burgess, it necessarily carries much weight.

During the year 34 patients were allowed out on trial, and of these 20 were finally discharged as recovered. Only five were returned to the hospital. As a rule a patient is given the freedom of the grounds before he is discharged on trial, he giving his word not to leave them without permission. This trial system is found to work well and is attended with beneficial results, the parole being rarely broken when care is taken in the selection of cases.

We congratulate the officers of the hospital on their excellent showing as regards the percentage of cures and also the general health of the patients.

THE LATEST MEDICAL AID SOCIETY.

From Cincinnati comes the news of a new departure in medicine, or rather in the way of a society for supplying medical attendance at a cheap rate. A company has been formed which proposes to supply medical and surgical attendance to families at a fixed rate per annum. The following is the prospectus which they have issued and which is rather a curiosity in its way:

AMERICAN FAMILY PHYSICIANS' COMPANY.

810 NEAVE BUILDING, CINCINNATI, O.

Prospectus.

"This company was organized and is now endorsed by Cincinnati's leading professional and business men.

"The plan and scope of the American Family Physicians' Company gives to those families who desire such protection an absolute and sure method of providing a physician and surgeon of the highest professional standing, for sickness or accident to any and all members of the family.

"The company also provides all the medicine necessary in such cases.

"The company also provides all medical and surgical appliances necessary in the treatment of these cases.

"You are not annoyed running first to the office of one physician and then to another to find him in, you simply go to the nearest telephone, call up our office, and a physician is at your house in a few minutes. You are absolutely assured of service at once, the best to be had in the city.

"You never receive a doctor's bill with a polite request to settle, and just at the time when you need the money for something else.

"You are healthy now, but you do not know how soon you may be a confirmed invalid, when the best attention will be necessary; then is when the bills run up, then is when you will need the service. Prepare yourself in advance; join with us now.

"The cost of membership is certainly low enough for all to enjoy its benefits. Class A—For a family consisting of not more than four members, $15.00. Class B—For a family of more than four and not over six, $18.00; and Class C—For a family of eight or more, $20.00 per year, payable monthly, quarterly, semi-annually or annually, in advance.

" We take you if you are in good health now ; no examination is necessary.

" A policy will be issued to each family and to single persons.

" Obstetrical cases are all paid by the company.

" It is a matter of efficient and economical service for every policy holder, so do not delay."

It is stated that the names of reputable physicians have appeared as connected with the concern, and that the board of directors is composed of business men of high standing in the community.

This is a decided step in advance of the ordinary mutual benefit society, as it is a *bona fide* business speculation, a joint-stock company, and presumably therefore got up for the purpose of making money, for we do not look upon joint-stock companies as philanthropists, hence either the medical man does not get what he is entitled to for the services he has rendered, or else the patient is charged more than he should be. There is no grading of charge according to the means of the patient, but all are admitted at a rate fixed according to the number in the family. This again either lets the rich man off with less than he should pay, or makes the poor man pay more than he can afford, for every medical man, although he does not charge a man more because he is rich, charges another man much less because he is not rich, and indeed attends many patients for nothing.

It is true that the scheme has this to recommend it, a man knows just how much he will have to pay for medical attendance in each year, but apparently there is no guarantee that you will have the same medical man twice in succession, hence the family doctor can no longer be the family friend, but he is reduced to a mere wage earner who has no personal interest in his patients, but only tries to earn his money with as little trouble to himself as possible.

The *Canada Lancet* describes the working of the arrangement in a graphic manner :

" Mrs. A. is in the first stage, or at least thinks the pains indicate it ; her spouse being a member, the old-time request in the words of the song, " Run for the doctor Joe," is rendered obsolete by the onward march of civilization's ingenuity, he rings up the company's office as one might a livery stable for a hack, and sure enough, with as little delay as though another witch of Endor waved some magic wand, the accomplished obstetrician appears on the scene of commotion, with bag in hand, and possibly a homely but useful article in the shape of bed-pan under his arm; for are not the company, according to their agreement, bound to furnish all requisite appliances? The picture may be slightly over-drawn, but to say the least, degradation is complete."

THE PAN-AMERICAN MEDICAL CONGRESS.

The Executive Committee of the First Pan-American Medical Congress promulgates the following information:

1. The First Pan-American Medical Congress will be opened under the Presidency of Prof. William Pepper, M.D., LL.D., President of the University of Pennsylvania, at Washington, D. C., September 5th, and will adjourn, September 8th, 1893.

2. The countries officially participating in the Congress are restricted to Argentine Republic, Bolivia, Brazil, British North America, British West Indies (including B. Honduras), Chili, Dominican Republic, Honduras (Sp.), Mexico, Nicaragua, Paraguay, Peru, Salvador, Republic of Columbia, Republic of Costa Rica, Ecuador, Guatemala, Haiti, Kingdom of Hawaii, Spanish West Indies, United States, Uruguay, Venezuela, Danish, Dutch and French West Indies.

Distinguished representatives of the profession from other countries are expected to be present as guests and to participate in the proceedings.

3. The general sessions will be limited in number, one for opening and one for closing the Congress, being all that will be held, unless some necessity arises for a change in this particular. This arrangement will permit members to employ all of the time in the scientific work of the sections, which are as follows:

(1) General Medicine, (2) General Surgery, (3) Military Medicine and Surgery, (4) Obstetrics, (5) Gynæcology and

Abdominal Surgery, (6) Therapeutics, (7) Anatomy, (8) Physiology, (9) Diseases of Children, (10 Pathology, (11) Ophthalmology, (12) Laryngology and Rhinology, (13) Otology, (14) Dermatology and Syphilography, (15) General Hygiene and Demography, (16) Marine Hygiene and Quarantine, (17) Orthopædic Surgery, (18) Diseases of the Mind and Nervous System, (19) Oral and Dental Surgery, (20) Medical Pedagogics, (21) Medical Jurisprudence, (22) Railway Surgery.

The evenings will be devoted entirely to social features, the detailed announcements of which will be made by the Committee of Arrangements.

4. Membership is limited to members the medical profession of the Western Hemisphere, including the West Indies and Hawaii, who shall either register at the meeting or shall serve the Congress in the capacity of foreign officers. No membership fee will be accepted from any member residing outside the United States. The membership fee for residents of the United States is ten dollars ($10.00). All registered members will receive a copy of the transactions. Prominent students of the allied sciences will be cordially received as guests and as contributors to the proceedings upon invitation by the Executive Presidents of sections. Ladies' tickets will be issued upon application to registered members only and will entitle the holders to reduced fare and to admission to all entertainments. Physicians of the United States should register at once, by remitting $10.00 to Dr. A. M. Owen, Treasurer, Evansville, Indiana.

5. Papers are solicited, the hope being entertained that the programme will be largely taken up with contributions from outside the United States. Papers may be read in any language, but a copy must be furnished for publication in either Spanish, Portuguese, French or English, and must not occupy more than twenty minutes in reading. An abstract not exceeding six hundred words must be furnished the Secretary-General in one of the above four languages, by not later than July 10th. Abstracts will then be translated by the Literary Bureau into the three remaining languages, and will be published in book form before the meeting of the Congress.

6. The Congress of the United States has adopted a joint resolution whereby all the Governments of the Western Hemisphere have been invited by the President to send delegates to the First Pan-American Medical Congress, and has appropriated a liberal sum for the purposes of entertainment.

7. The reduced fare offered by all transportation companies on the occasion of the World's Columbian Exposition to be held in Chicago, will be open to all persons attending the Pan-American Medical Congress. The Committee of Arrangements will endeavor to secure still greater reduction to members travelling between Chicago and Washington, and an effort will be made to arrange either excursions or circular tours for those who may desire to visit the great universities of the United States. All such arrangements are open to subsequent announcement.

8. By arrangement with the Committee at Rome, the date of the Eleventh International Medical Congress has been so appointed that those who attend the meeting of the Pan-American Medical Congress may subsequently attend the former. The Pan-American Medical Congress will adjourn on the afternoon of September 8th ; a steamship will sail from New York on the following day, going by the Azores and Gibraltar and enabling the tourist to reach Rome on the morning of September 20th, where the Eleventh International Congress will be opened on the afternoon of September 24th. It will thus be seen at a glance that in the period usually alloted to a summer vacation, the medical tourist may spend a week at the World's Columbian Exposition, the next week at the Pan-American Medical Congress, the next week and a half with delightful companions in a voyage to the Mediterranean, the next few days in witnessing the sights of Rome, and the following week at the Eleventh International Medical Congress. Special reduced rates for members and their families are given both ways on the trip to Rome, particulars of which will be furnished on application to the Secretary-General, 311 Elm street, Cincinnati, Ohio, who is also a member of the American Committee of the Eleventh International Congress.

9. The best possible arrangements will be made with the

excellent hotels with which the national capital is abundantly supplied. The Committee of Arrangements will do its utmost to secure desirable rates and locations for members and their families. The headquarters of the Committee of Arrangements is at the Arlington Hotel, where communications may be addressed either to Dr. Samuel S. Adams, Chairman, or Dr. J. R. Wellington, Secretary.

10. Copies of the Official Announcement of the Congress, containing the Regulations and the names of all officers and committeemen of the General Congress and of the various sections, and residing in the various countries, may be obtained upon application to the Secretary-General, or to either of the members of the International Executive Committee, as follows:

Argentine Republic, Dr. Pedro Lagleyze, Calle Artes 46, Buenos Aires ; Bolivia, Dr. Emilio di Tommassi, Calle Ayacucho 26, La Paz ; British West Indies, Dr. James A. de Wolf, Port of Spain ; British North America, Dr. James F. W. Ross, 481 Sherborne street, Toronto ; Chili, Dr. Moises Amaral, Facultad de Medicina, Santiago ; Costa Rica, Dr. Daniel Nunez, San José ; Dominican Republic, Dr. Julio Leon. Santo Domingo ; Ecuador, Dr. Ricardo Cucalon, Guayaquil ; Guatemala, Dr. José Monteros, Avenida Sur No. 8, Guatemala City ; Haiti, Dr. T. Lamothe, Rue du Centre, Port au Prince ; Hawaii, Dr. John A McGrew, Honolulu ; Honduras (Spanish), Dr. George Bernhardt, Tegucigalpa ; Mexico, Dr. Tomas Noriega, Hospital de Jesus, Mexico ; Nicaragua, Dr. J. I. Urtecho, Calle Keal, Granada ; Paraguay, ———; Peru, Dr. Manuel C. Barrios, Facultad de Medicina, Lima ; Republic of Colombia, Dr. P. M. Ibanez, Calle 5a Numero 99, Bogota ; Salvador, Dr. David J. Guzman, San Salvador ; Spanish West Indies, Dr. Juan Santos Fernandez, Calle Reina No. 92, Havana ; United States of America, Dr. A. Vander Veer, 28 Eagle street, Albany, N. Y.; United States of Brazil, Dr. Carlos Costa, Rua Largo da Misericordia 7, Rio de Janeiro ; Uruguay, Dr. Jacinto de Leon, Calle de Florida No. 65, Montevideo ; Venezuela, Dr. Elias Rodriguez, Caracas.

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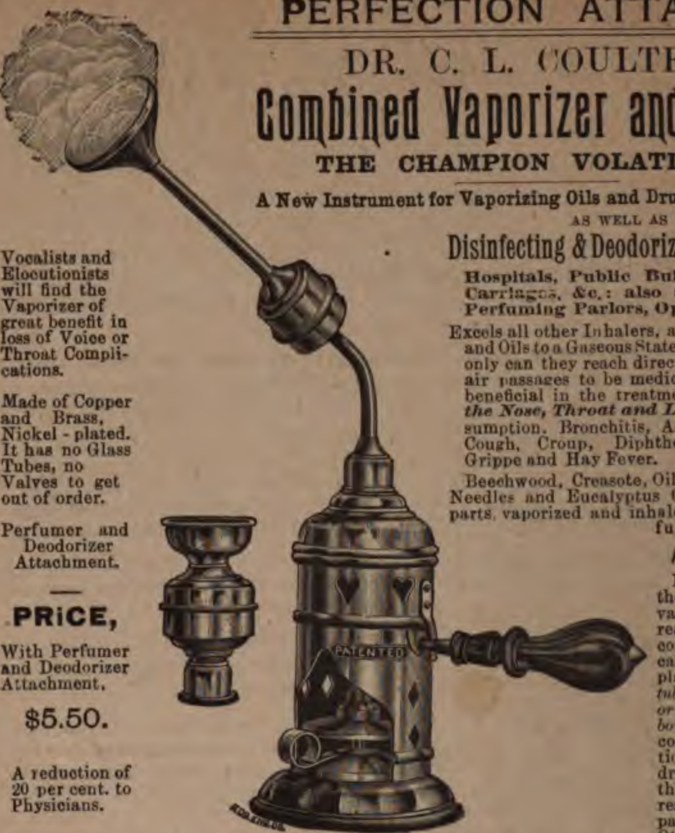

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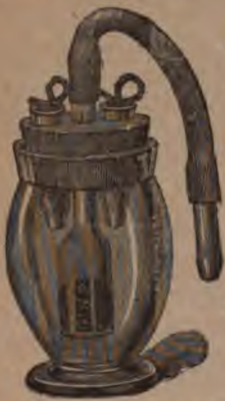

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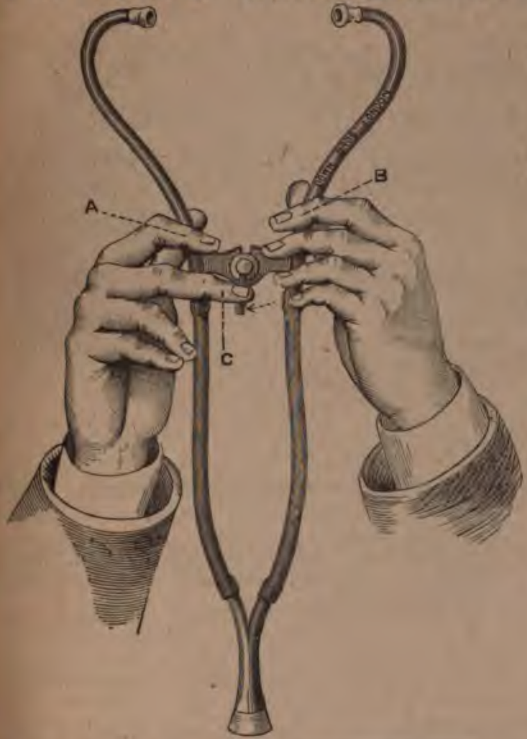

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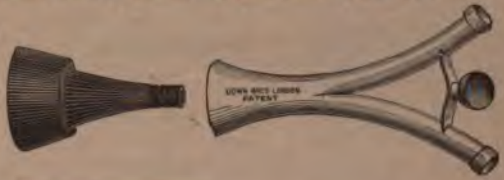

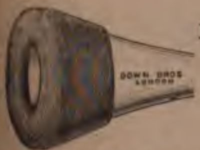

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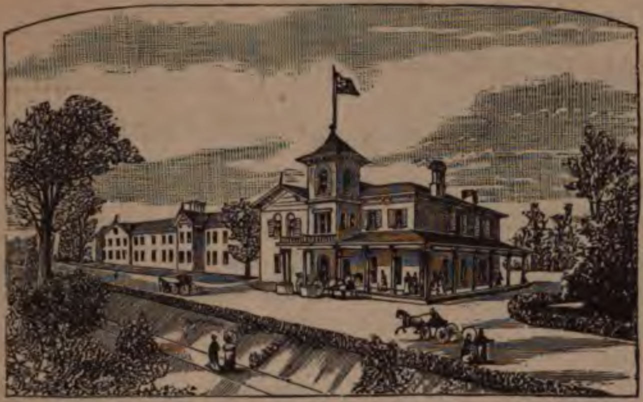

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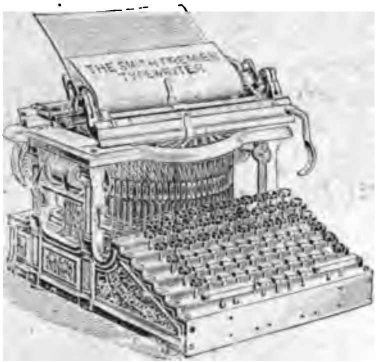

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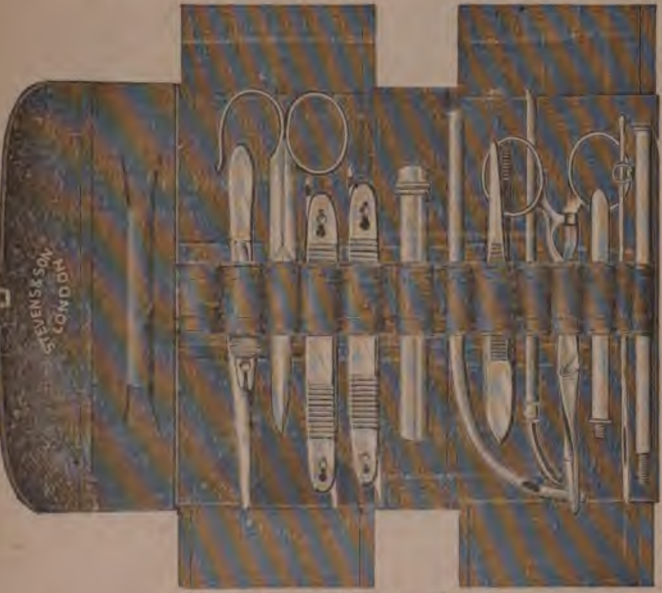

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